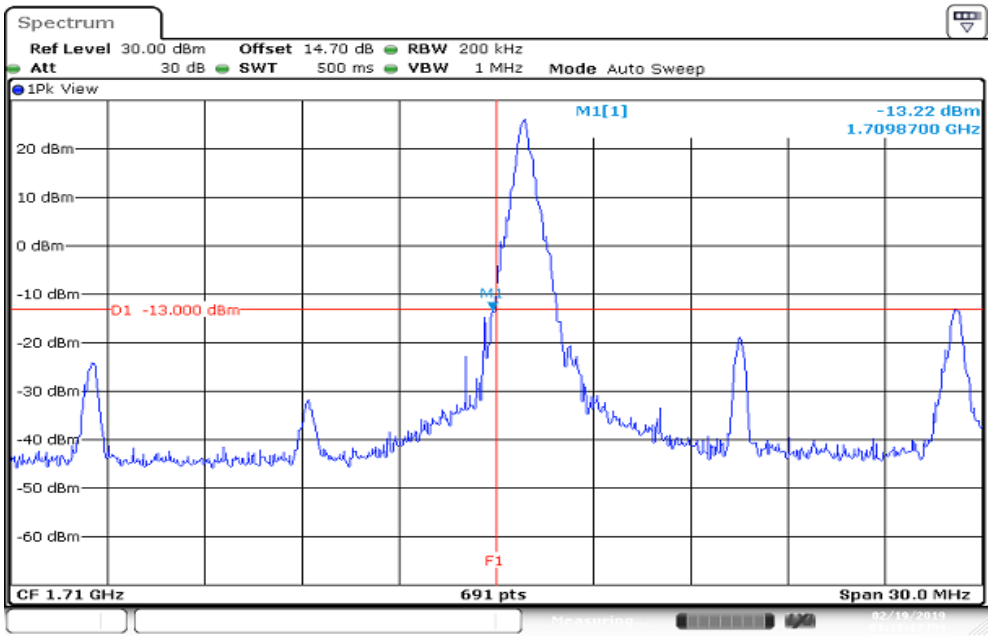
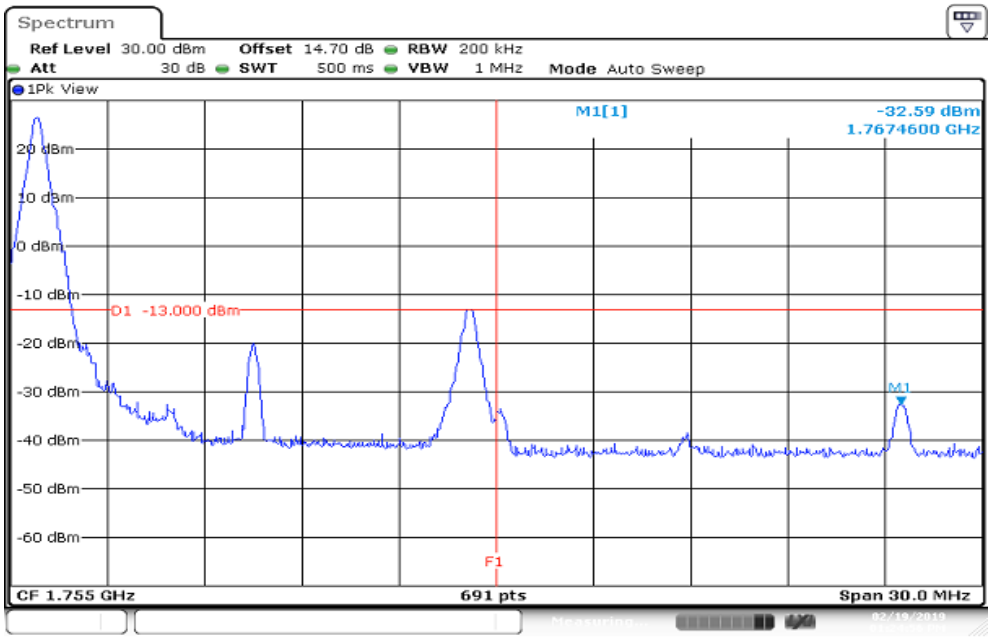
CHANNEL BANDWIDTH: 15MHz / QPSK / 1RB ALLOCATION

LOWER BAND EDGE



Date: 19.FEB.2019 13:18:12

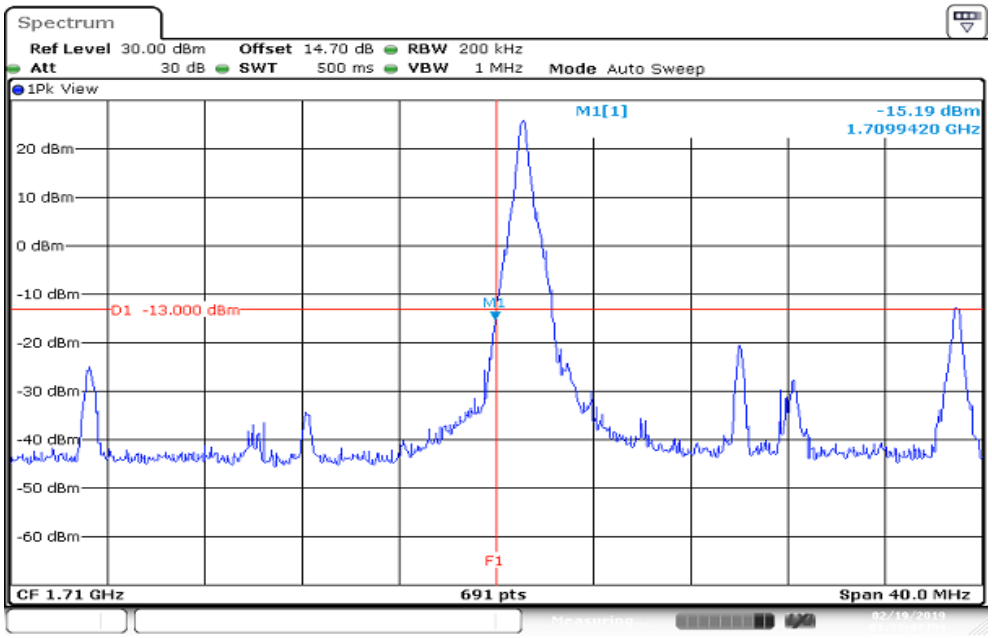
HIGHER BAND EDGE



Date: 19.FEB.2019 13:24:56

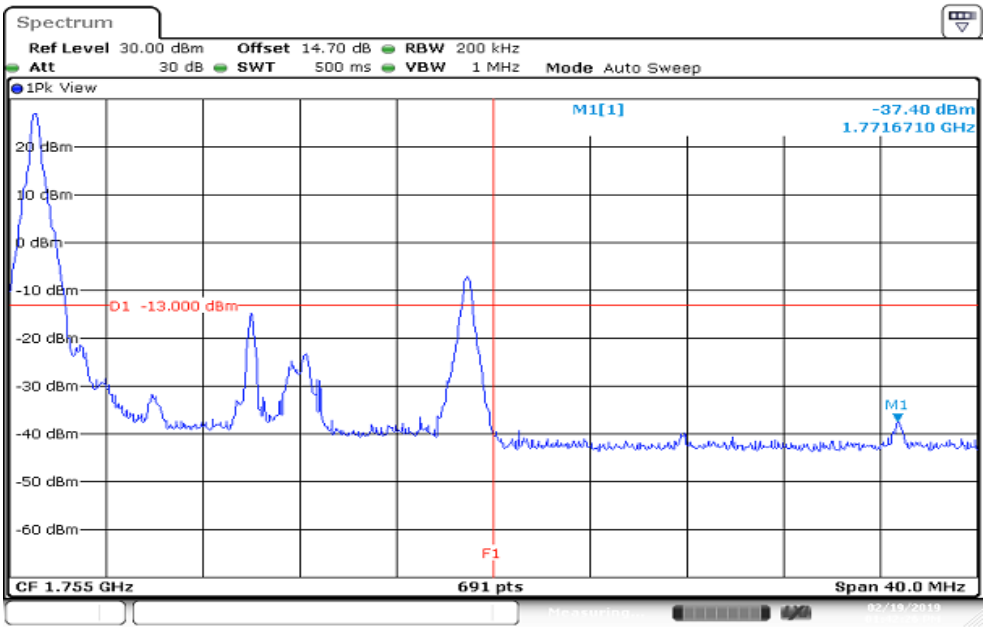
CHANNEL BANDWIDTH: 20MHz / QPSK / 1RB ALLOCATION

LOWER BAND EDGE



Date: 19.FEB.2019 13:33:43

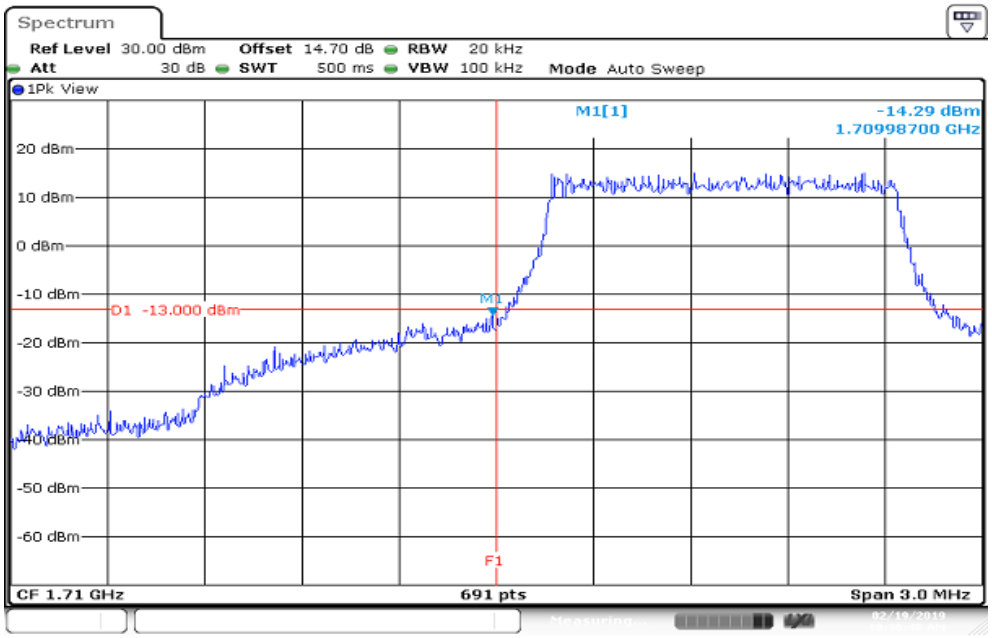
HIGHER BAND EDGE



Date: 19.FEB.2019 13:42:26

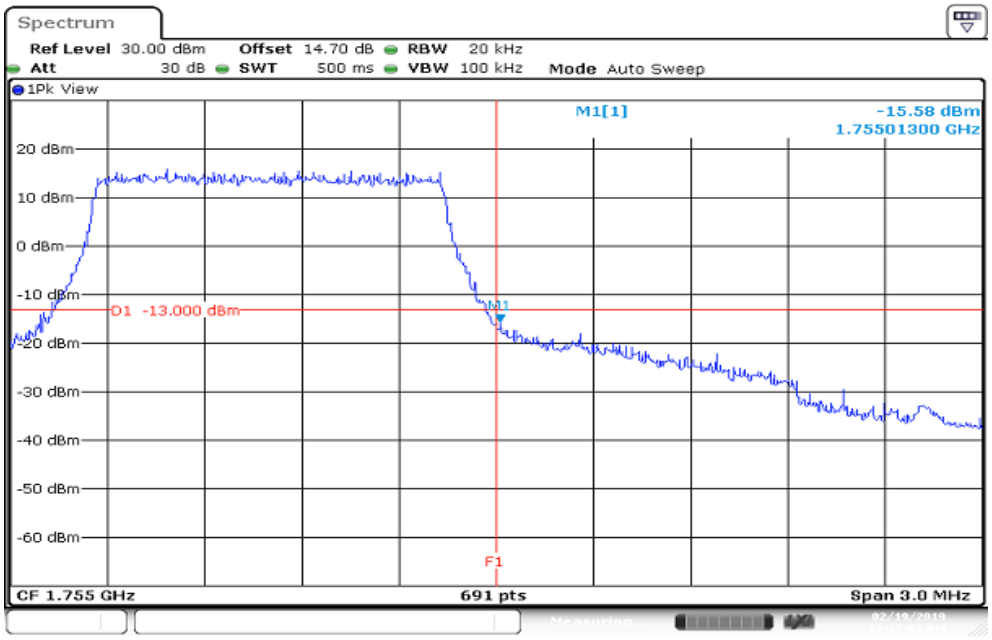
CHANNEL BANDWIDTH: 1.4MHz / QPSK / FULLRB ALLOCATION

LOWER BAND EDGE



Date: 19.FEB.2019 10:30:49

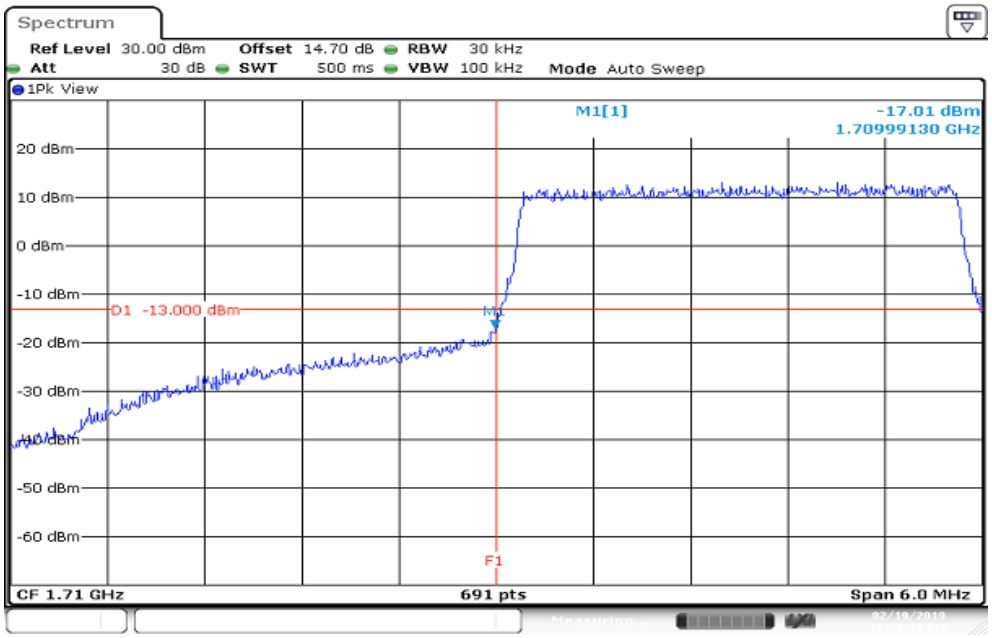
HIGHER BAND EDGE



Date: 19.FEB.2019 10:37:02

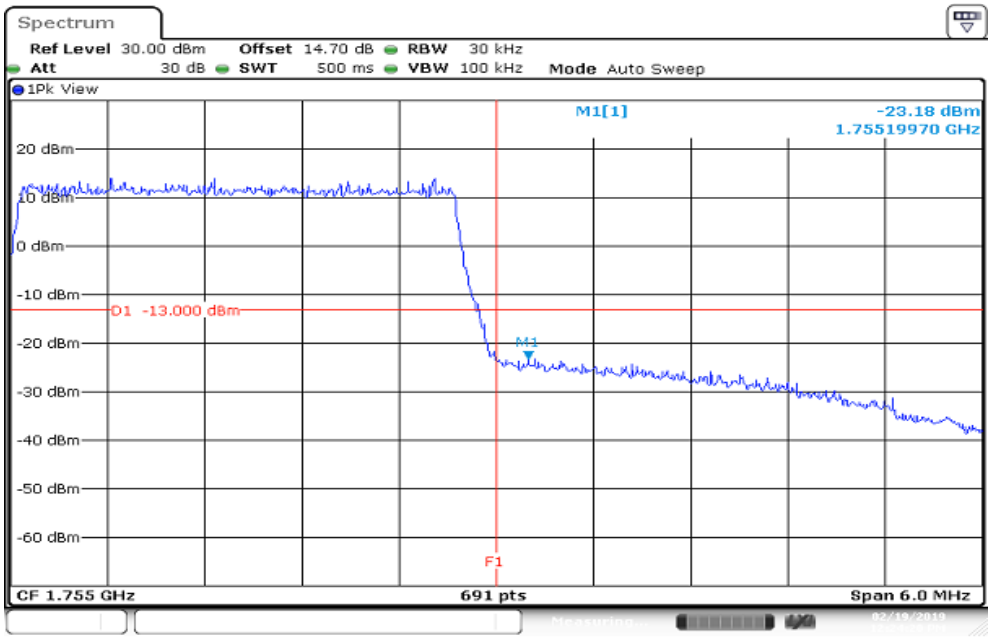
CHANNEL BANDWIDTH: 3MHz / QPSK / FULLRB ALLOCATION

LOWER BAND EDGE



Date: 19.FEB.2019 12:22:23

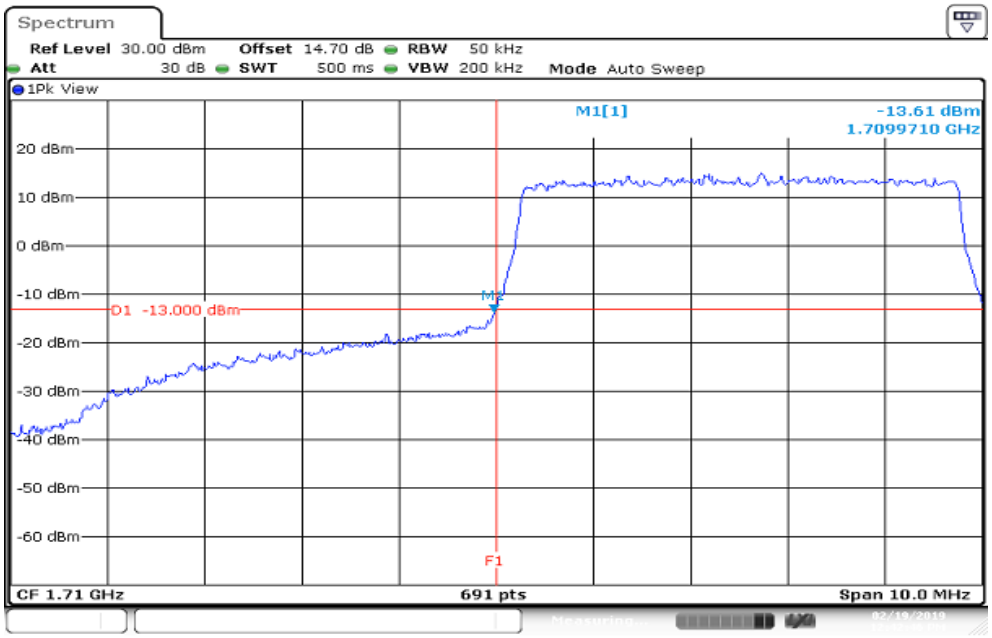
HIGHER BAND EDGE



Date: 19.FEB.2019 12:24:21

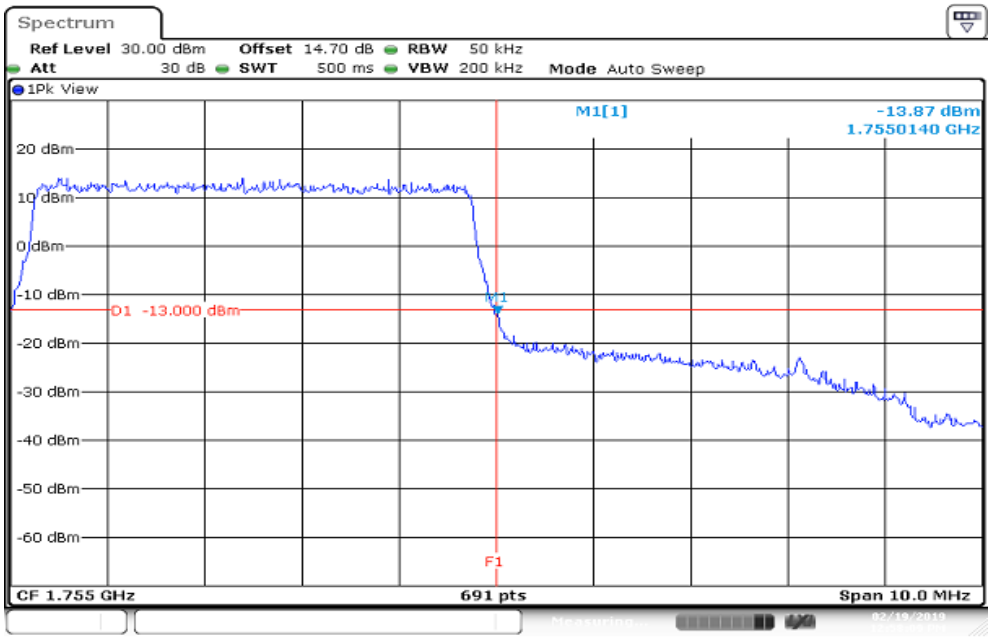
CHANNEL BANDWIDTH: 5MHz / QPSK / FULLRB ALLOCATION

LOWER BAND EDGE



Date: 19.FEB.2019 12:42:47

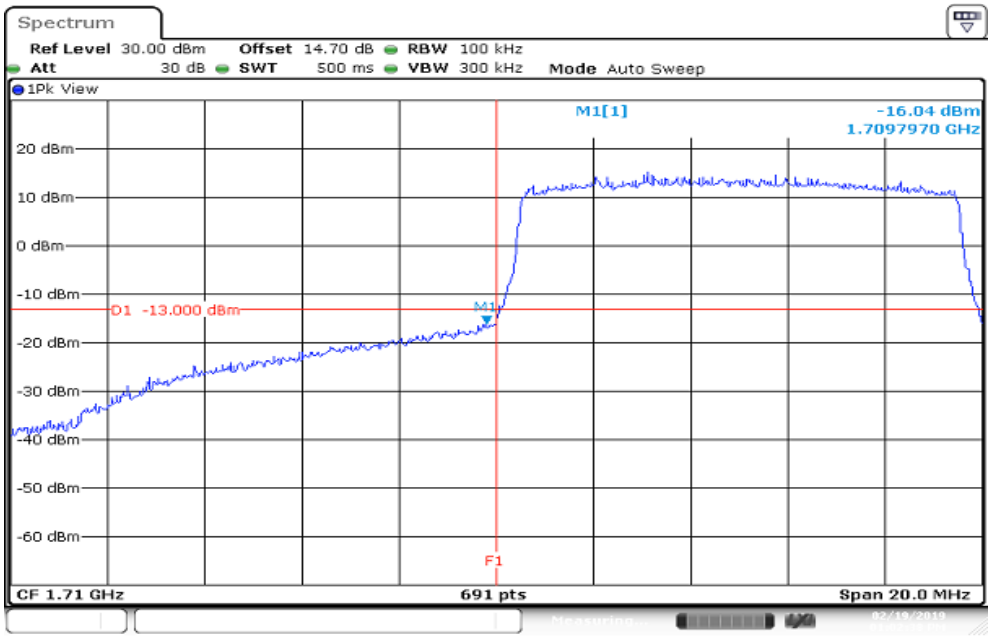
HIGHER BAND EDGE



Date: 19.FEB.2019 12:58:10

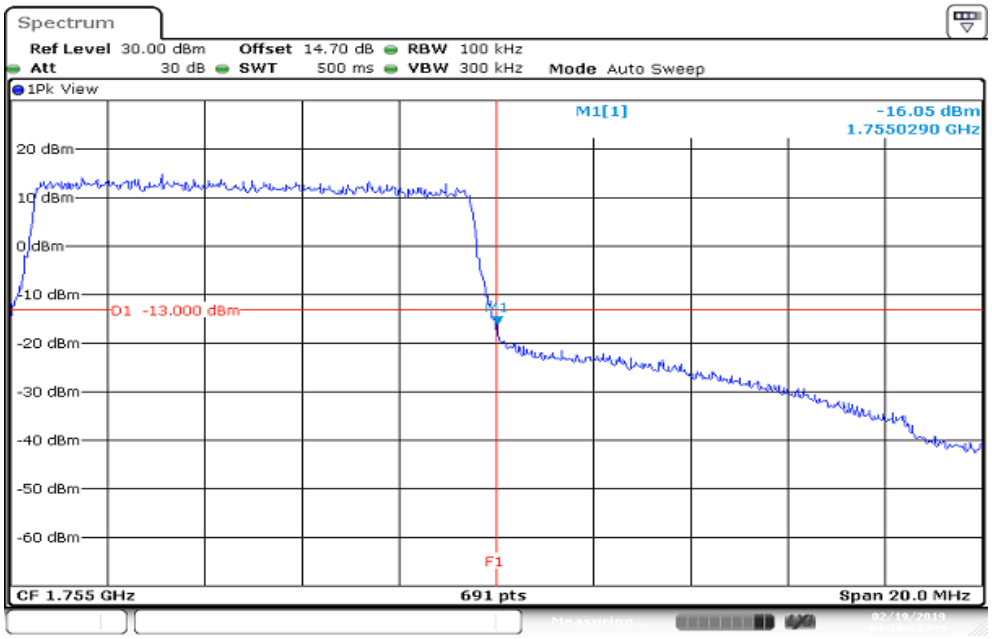
CHANNEL BANDWIDTH: 10MHz / QPSK / FULLRB ALLOCATION

LOWER BAND EDGE



Date: 19.FEB.2019 13:02:38

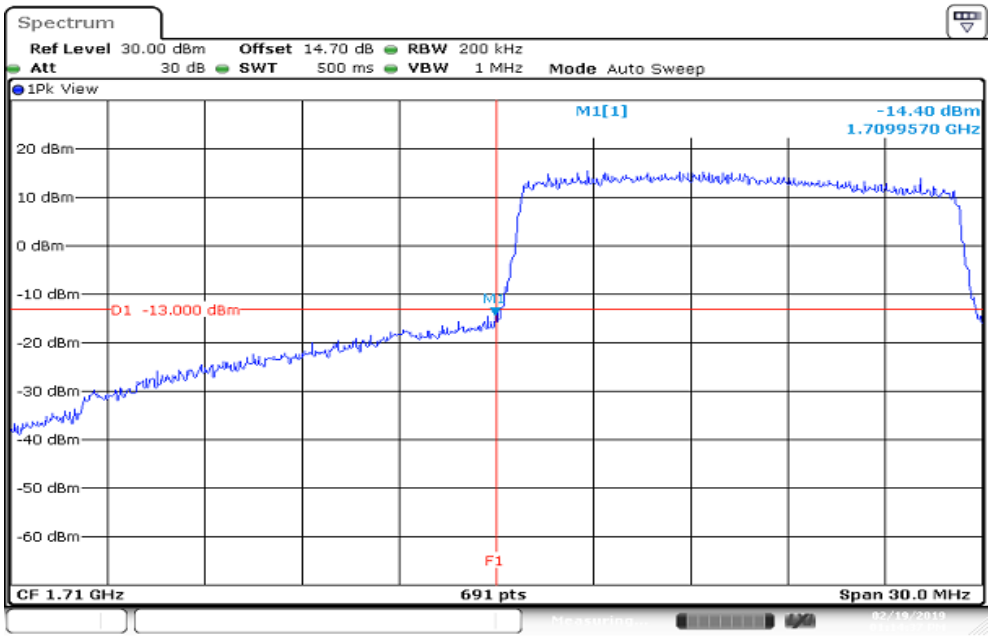
HIGHER BAND EDGE



Date: 19.FEB.2019 13:10:12

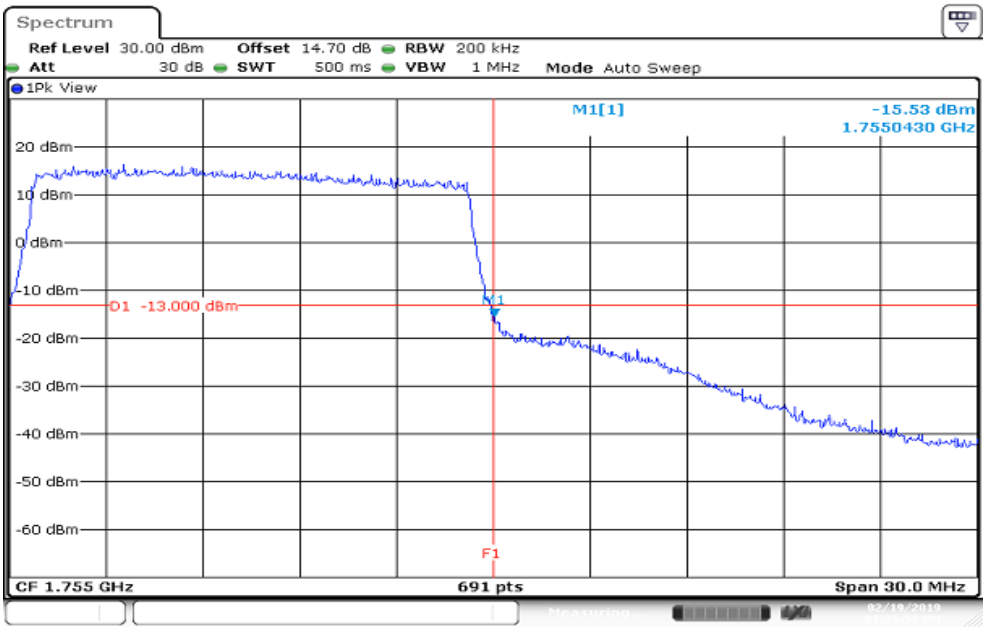
CHANNEL BANDWIDTH: 15MHz / QPSK / FULLRB ALLOCATION

LOWER BAND EDGE



Date: 19.FEB.2019 13:14:37

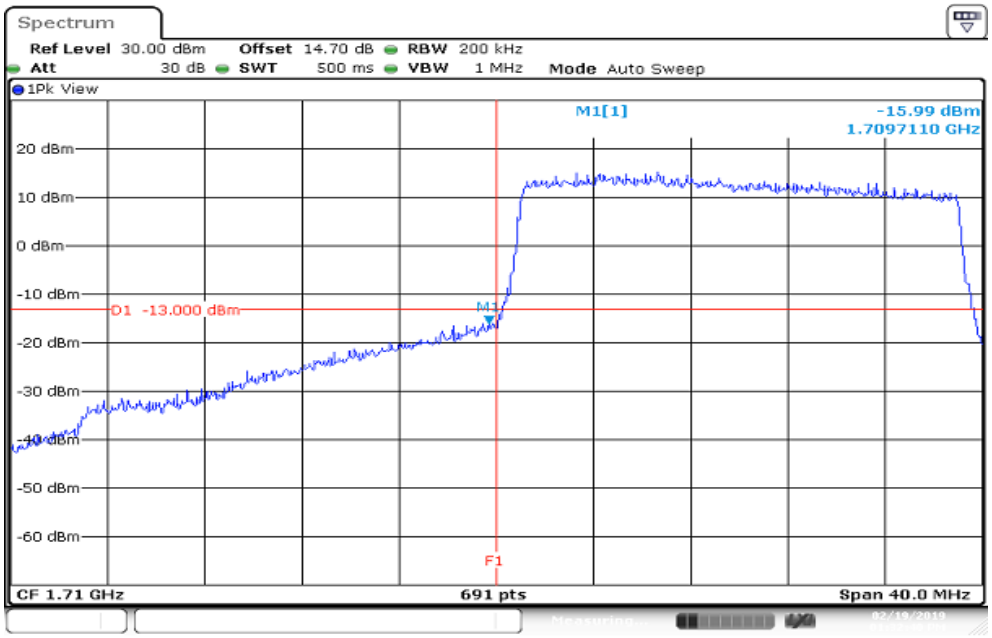
HIGHER BAND EDGE



Date: 19.FEB.2019 13:25:58

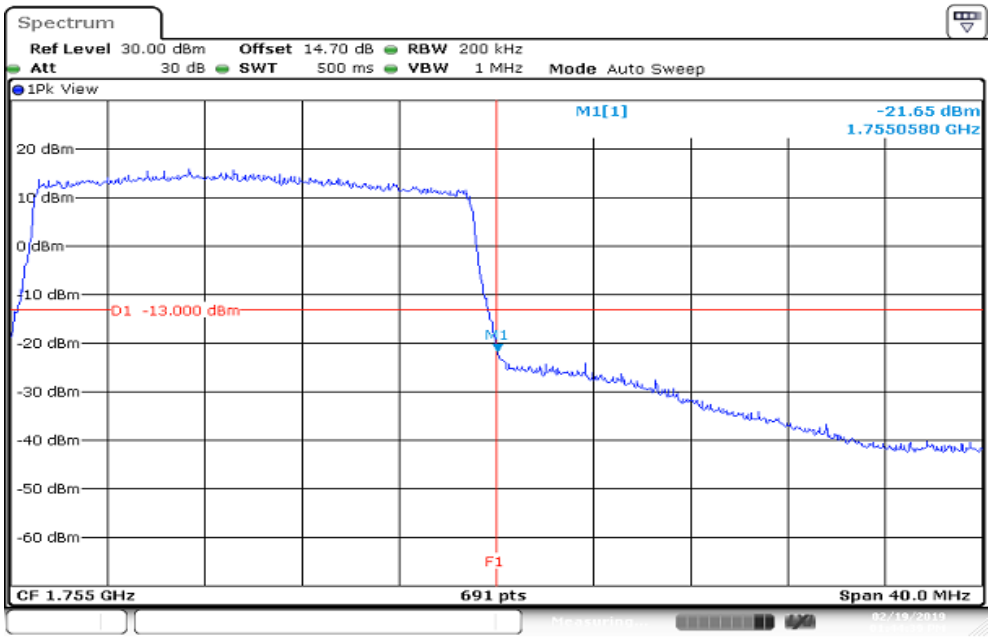
CHANNEL BANDWIDTH: 20MHz / QPSK / FULLRB ALLOCATION

LOWER BAND EDGE



Date: 19.FEB.2019 13:32:40

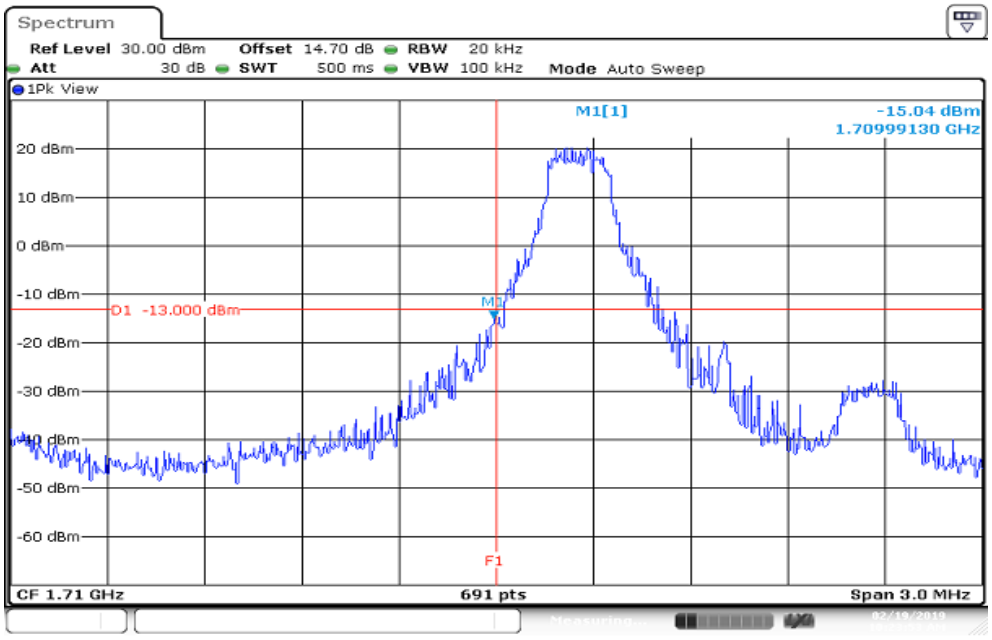
HIGHER BAND EDGE



Date: 19.FEB.2019 13:44:39

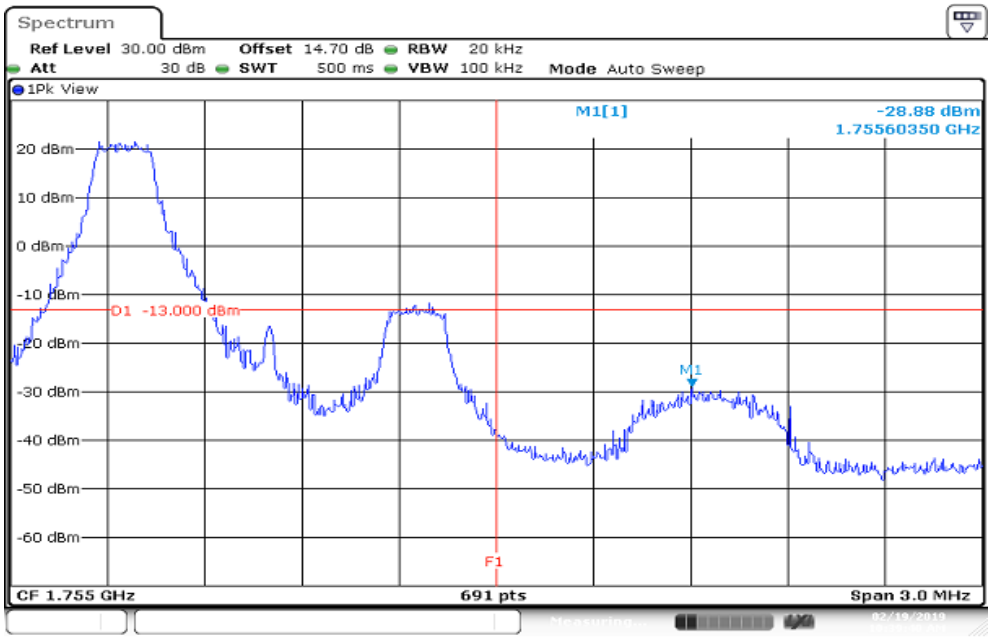
CHANNEL BANDWIDTH: 1.4MHz / 16QAM/ 1RB ALLOCATION

LOWER BAND EDGE



Date: 19.FEB.2019 10:23:54

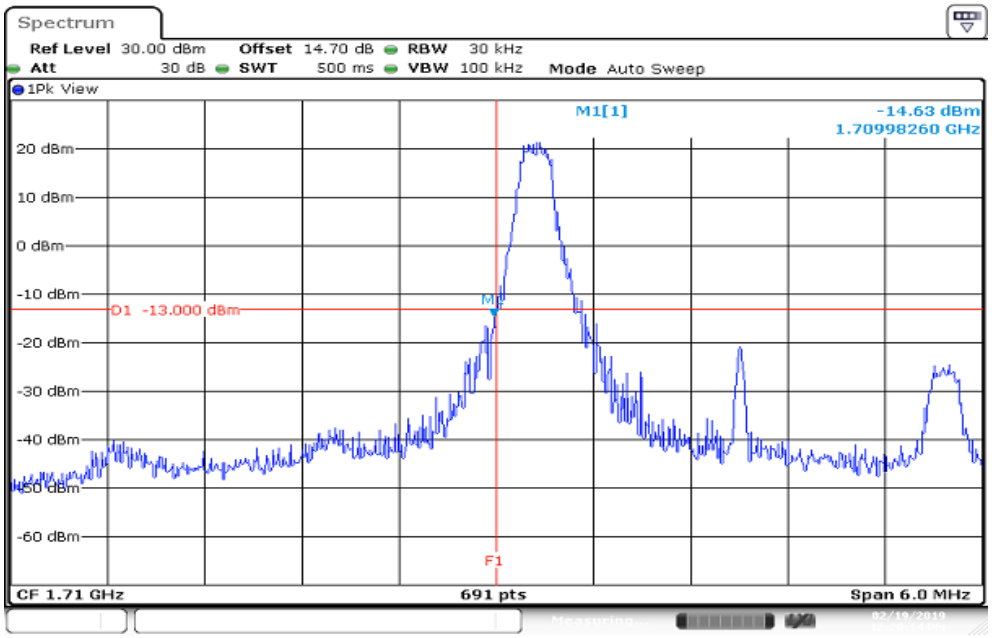
HIGHER BAND EDGE



Date: 19.FEB.2019 10:39:40

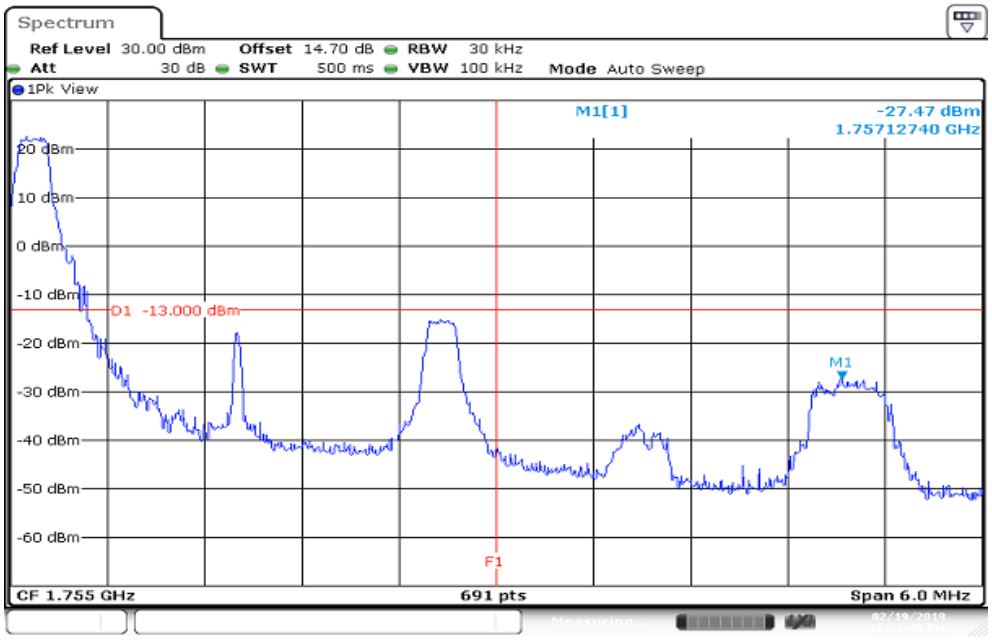
CHANNEL BANDWIDTH: 3MHz / 16QAM/ 1RB ALLOCATION

LOWER BAND EDGE



Date: 19.FEB.2019 12:20:14

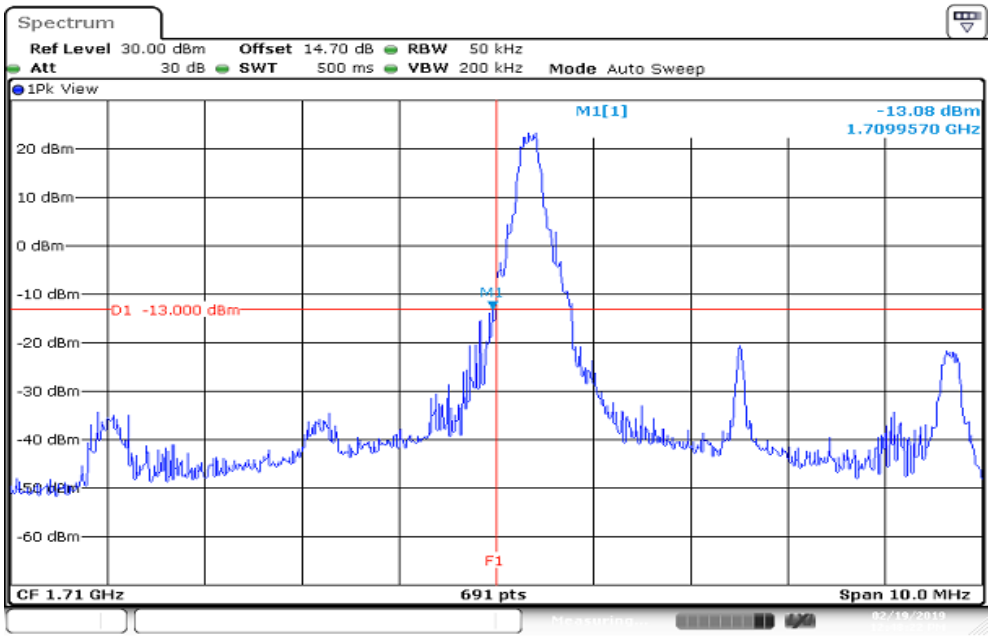
HIGHER BAND EDGE



Date: 19.FEB.2019 12:31:43

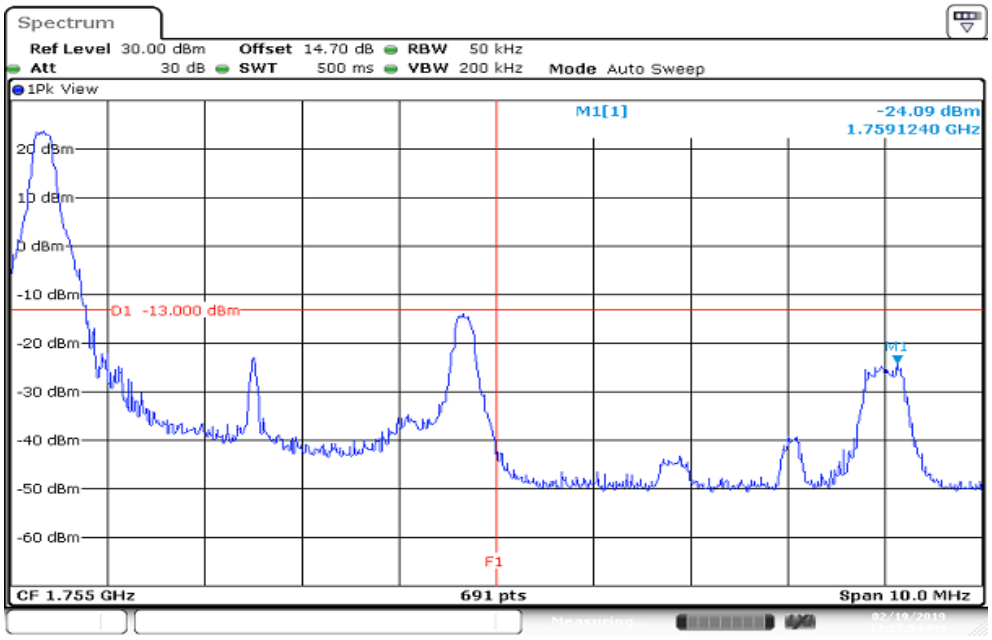
CHANNEL BANDWIDTH: 5MHz / 16QAM/ 1RB ALLOCATION

LOWER BAND EDGE



Date: 19.FEB.2019 12:48:22

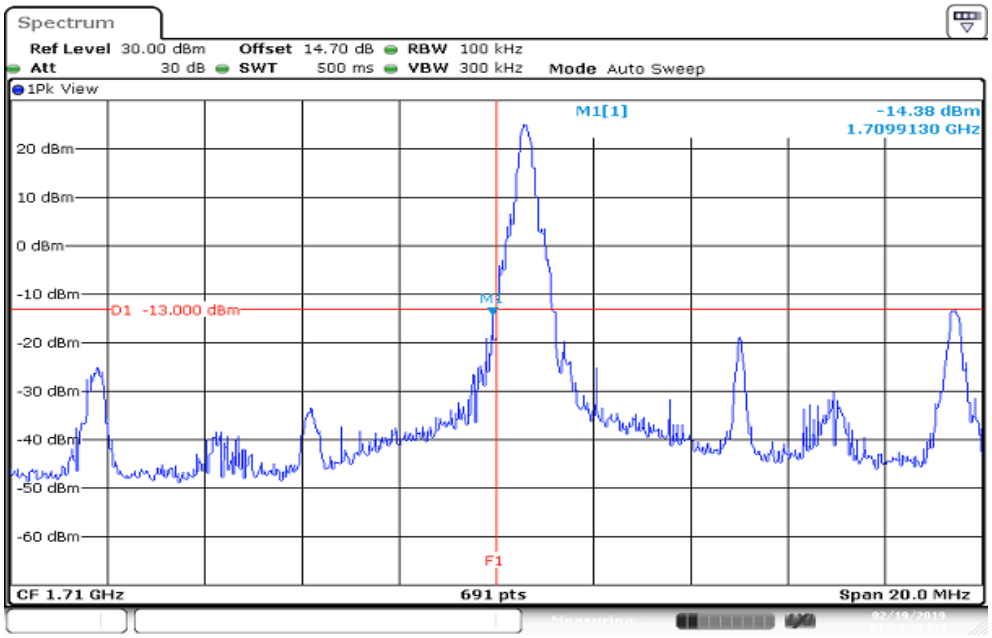
HIGHER BAND EDGE



Date: 19.FEB.2019 12:55:54

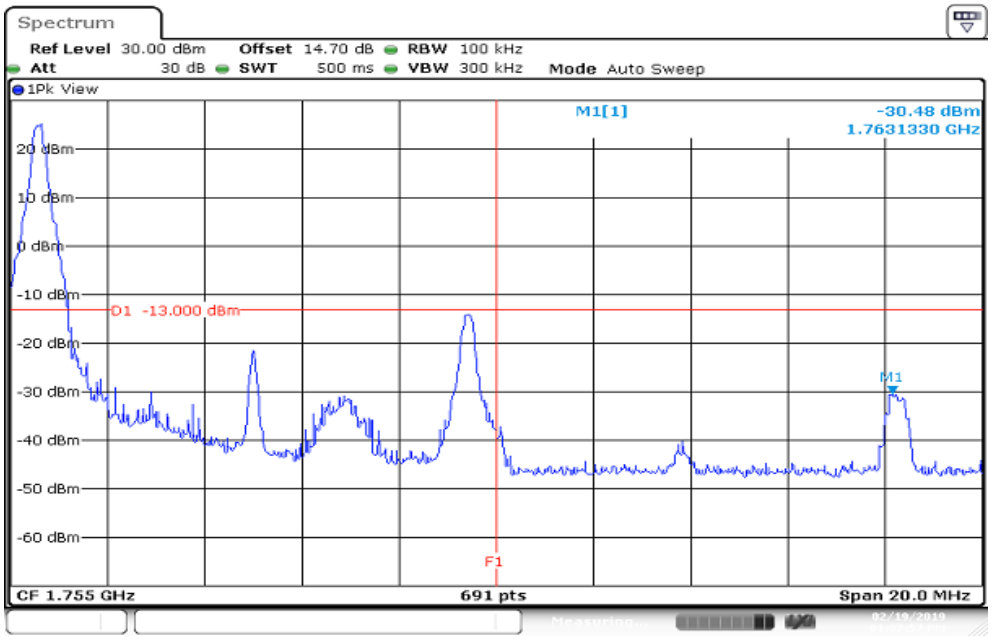
CHANNEL BANDWIDTH: 10MHz / 16QAM/ 1RB ALLOCATION

LOWER BAND EDGE



Date: 19.FEB.2019 13:04:32

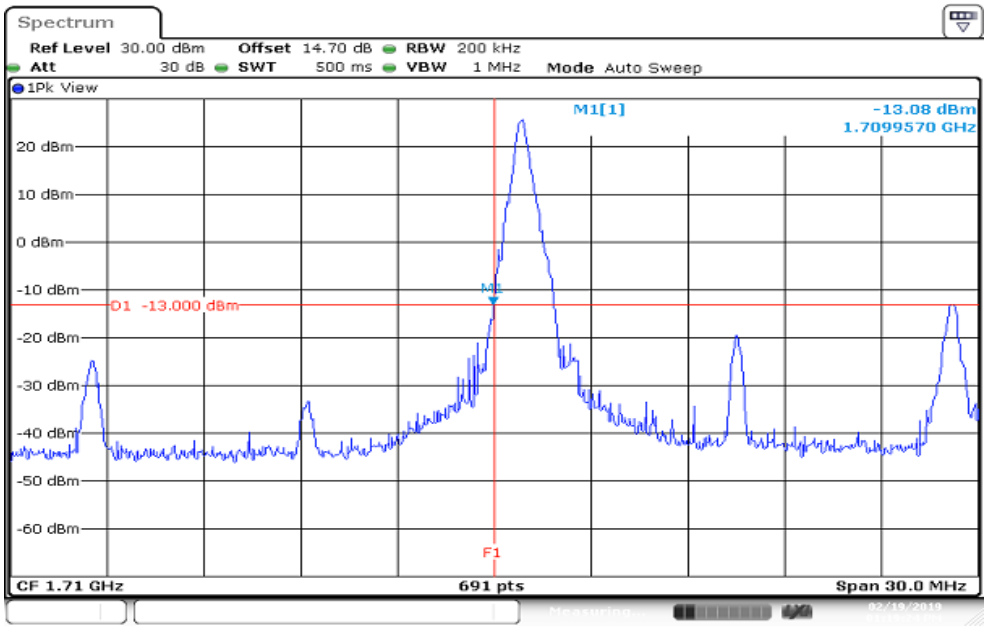
HIGHER BAND EDGE



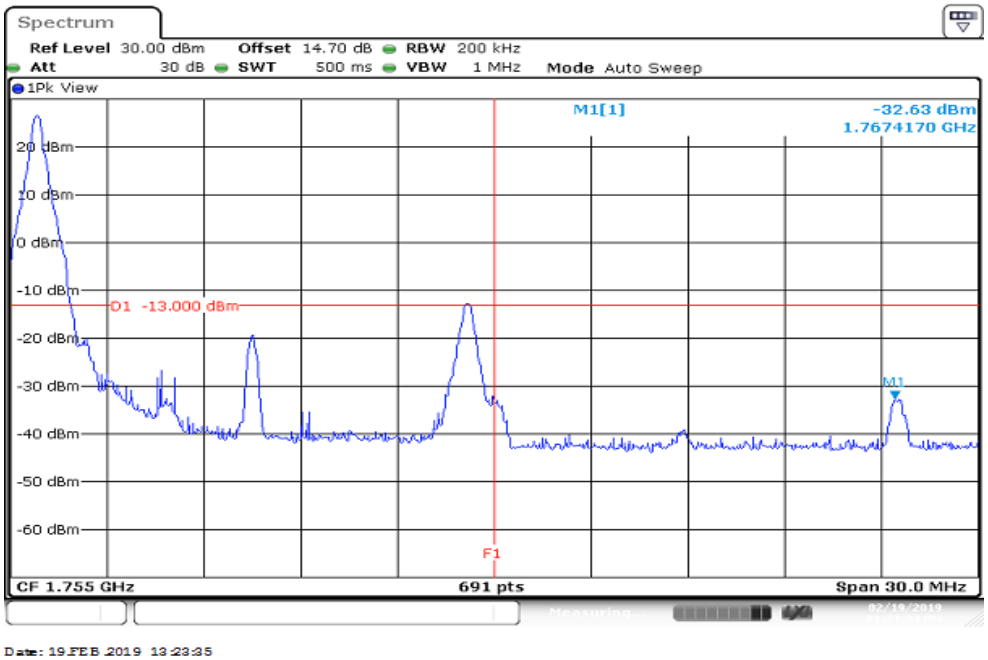
Date: 19.FEB.2019 13:07:57

CHANNEL BANDWIDTH: 15MHz / 16QAM/ 1RB ALLOCATION

LOWER BAND EDGE

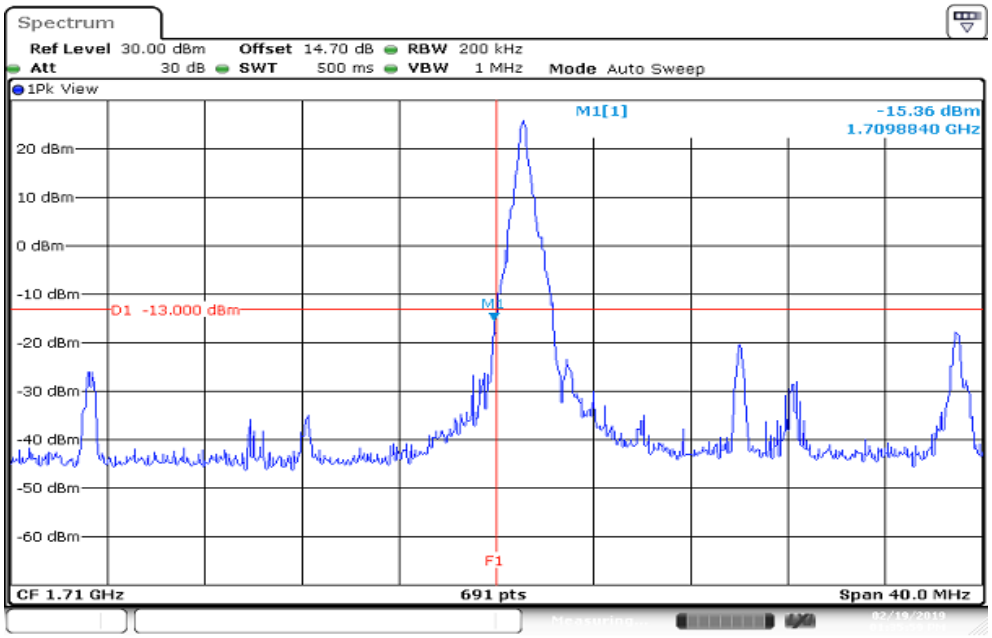


HIGHER BAND EDGE



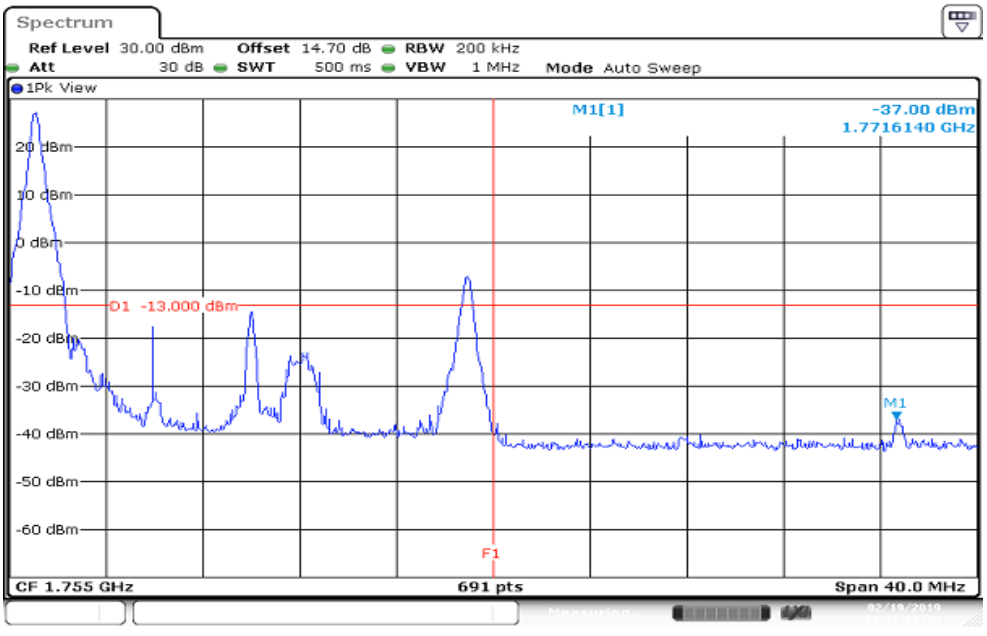
CHANNEL BANDWIDTH: 20MHz / 16QAM/ 1RB ALLOCATION

LOWER BAND EDGE



Date: 19.FEB.2019 13:36:00

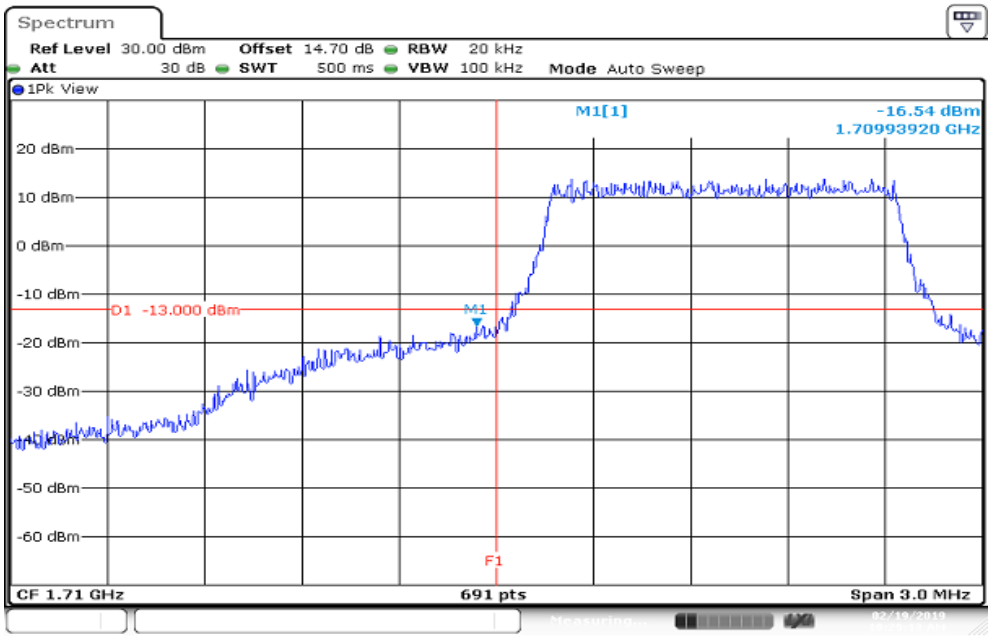
HIGHER BAND EDGE



Date: 19.FEB.2019 13:41:24

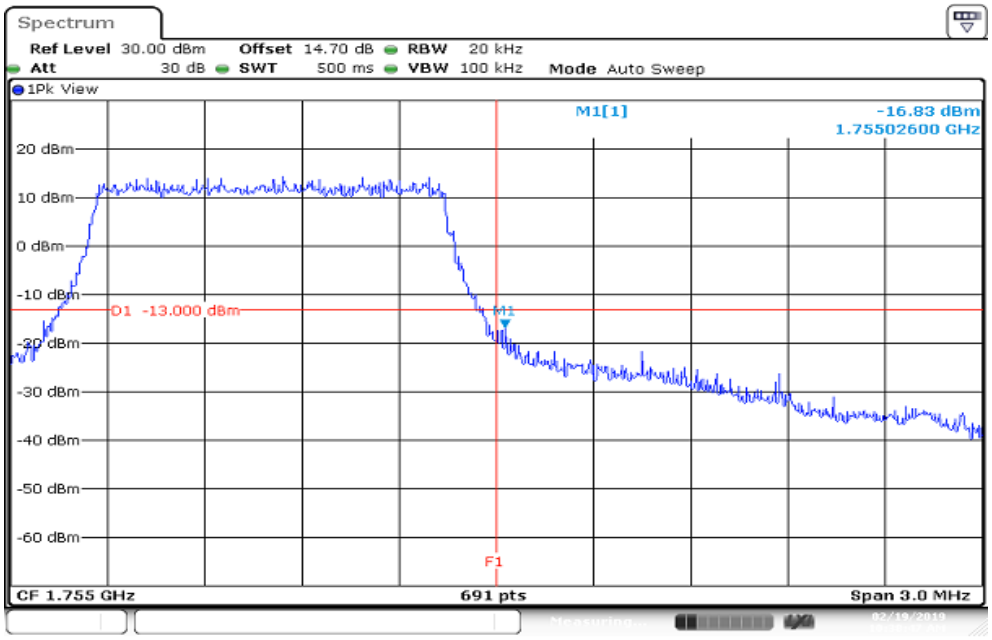
CHANNEL BANDWIDTH: 1.4MHz / 16QAM/ FULLRB ALLOCATION

LOWER BAND EDGE



Date: 19.FEB.2019 10:29:12

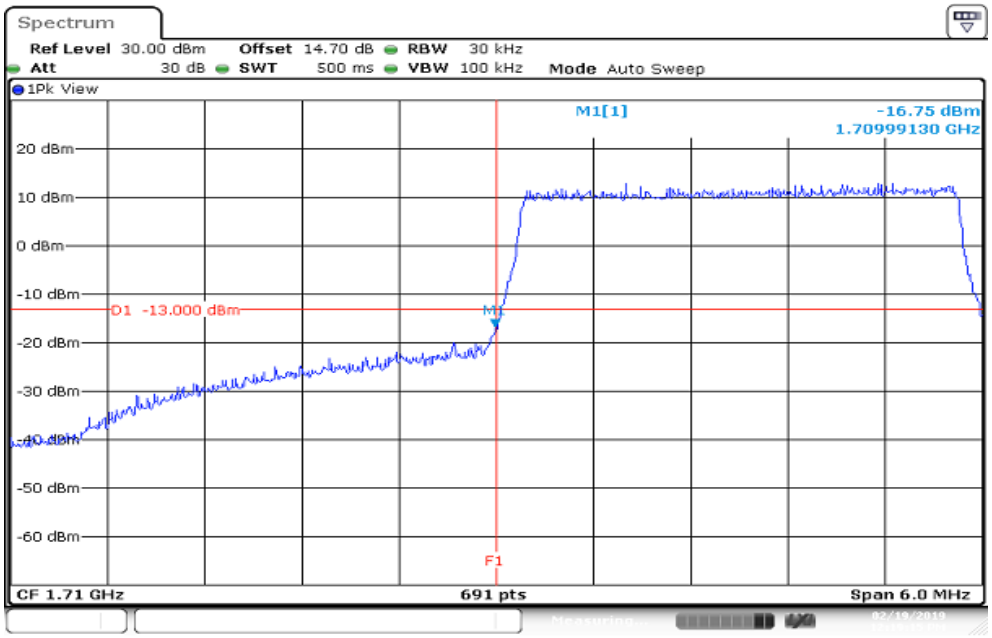
HIGHER BAND EDGE



Date: 19.FEB.2019 10:38:48

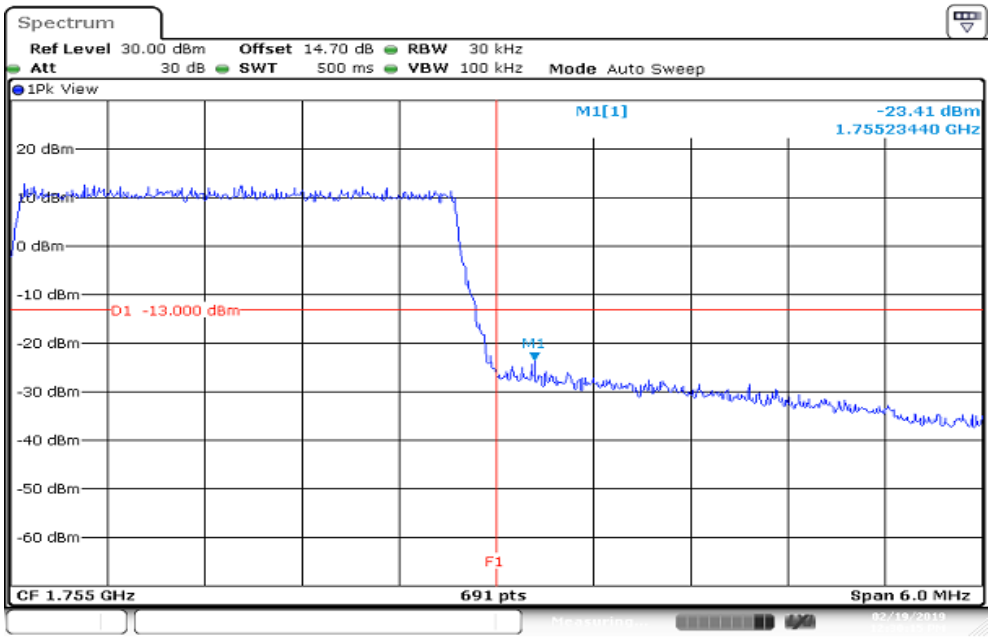
CHANNEL BANDWIDTH: 3 MHz / 16QAM/ FULLRB ALLOCATION

LOWER BAND EDGE



Date: 19.FEB.2019 12:19:15

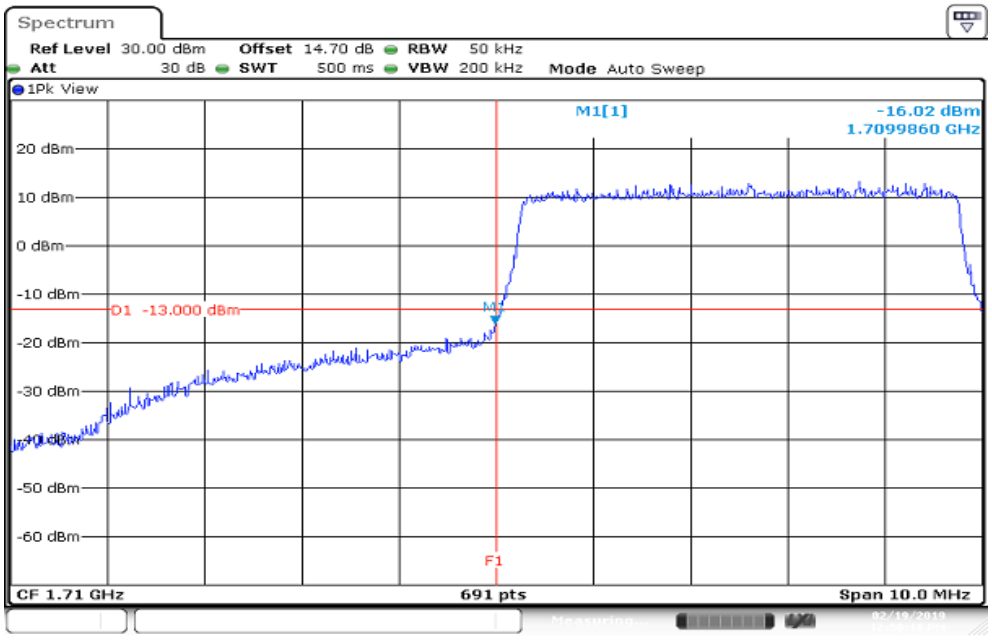
HIGHER BAND EDGE



Date: 19.FEB.2019 12:30:15

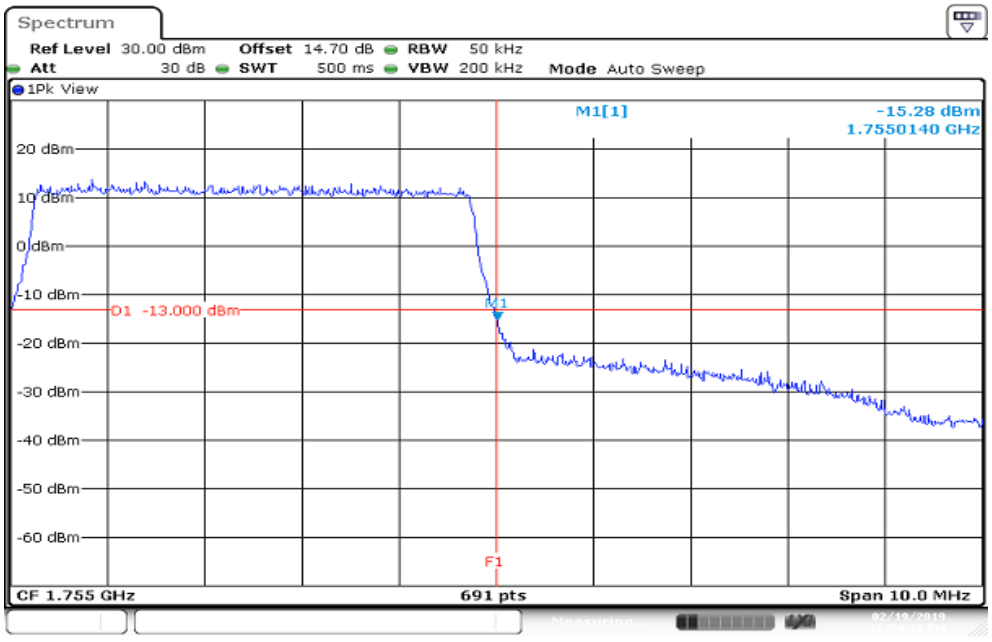
CHANNEL BANDWIDTH: 5MHz / 16QAM/ FULLRB ALLOCATION

LOWER BAND EDGE



Date: 19.FEB.2019 12:50:19

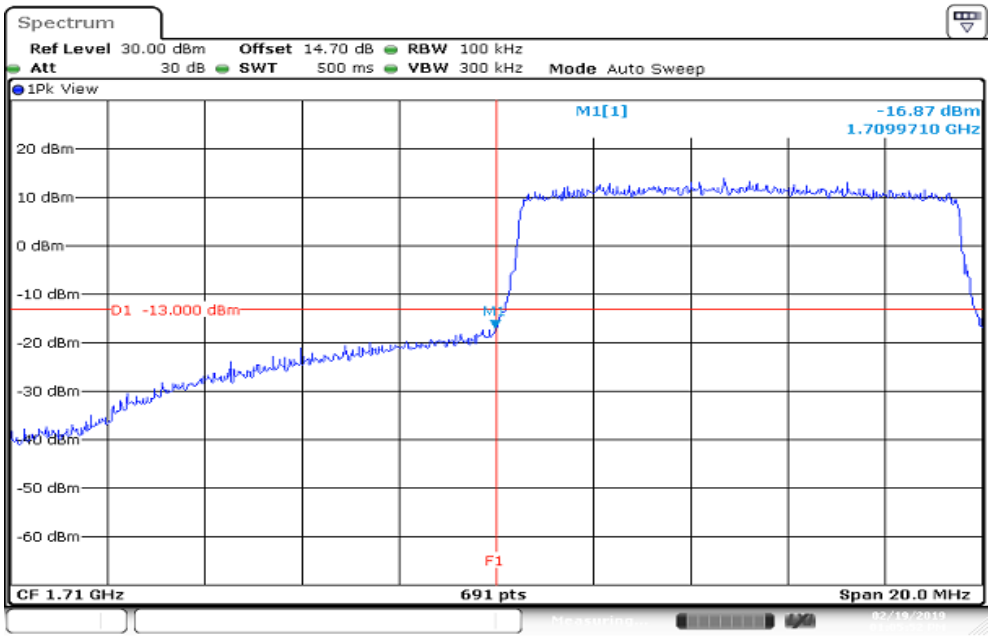
HIGHER BAND EDGE



Date: 19.FEB.2019 12:54:51

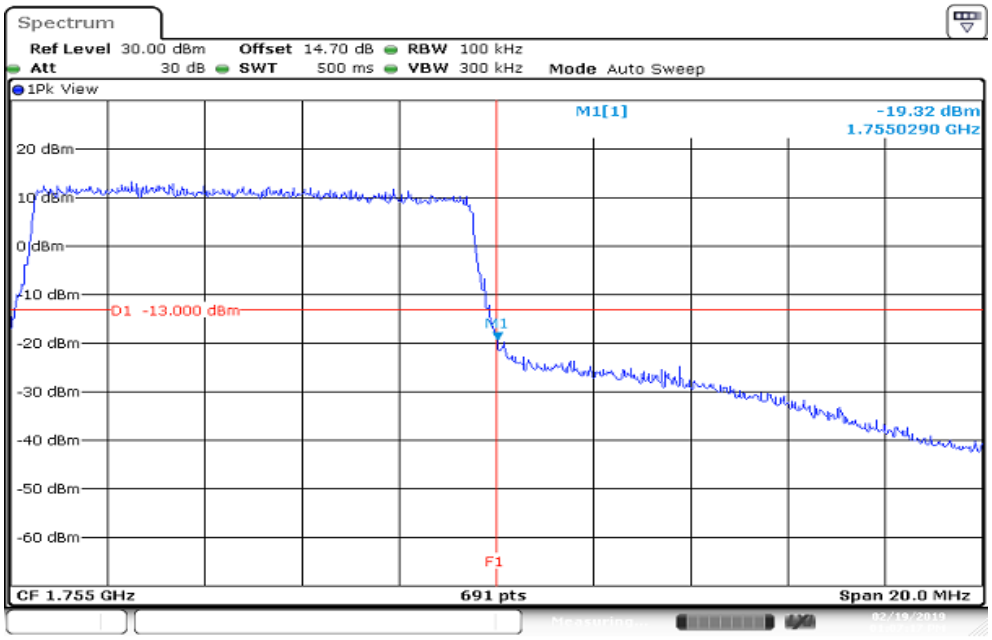
CHANNEL BANDWIDTH: 10MHz / 16QAM/ FULLRB ALLOCATION

LOWER BAND EDGE



Date: 19.FEB.2019 13:05:53

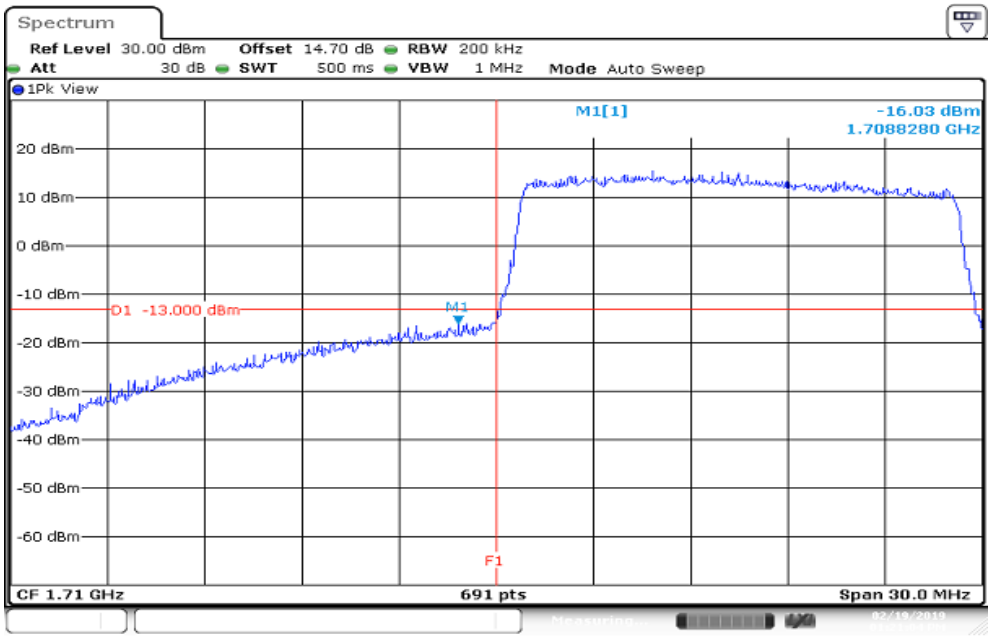
HIGHER BAND EDGE



Date: 19.FEB.2019 13:07:17

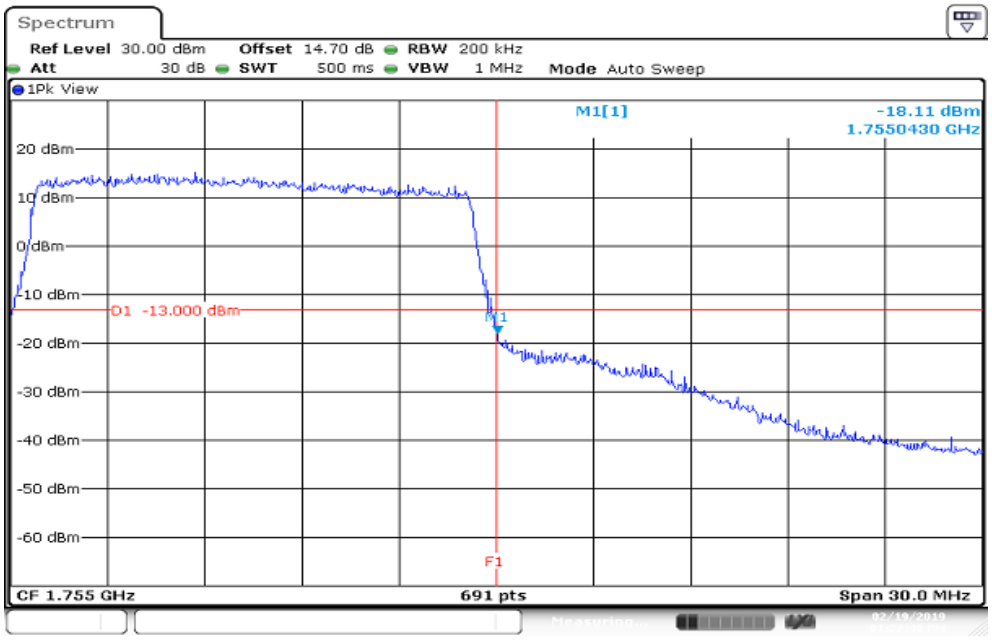
CHANNEL BANDWIDTH: 15MHz / 16QAM/ FULLRB ALLOCATION

LOWER BAND EDGE



Date: 19.FEB.2019 13:21:05

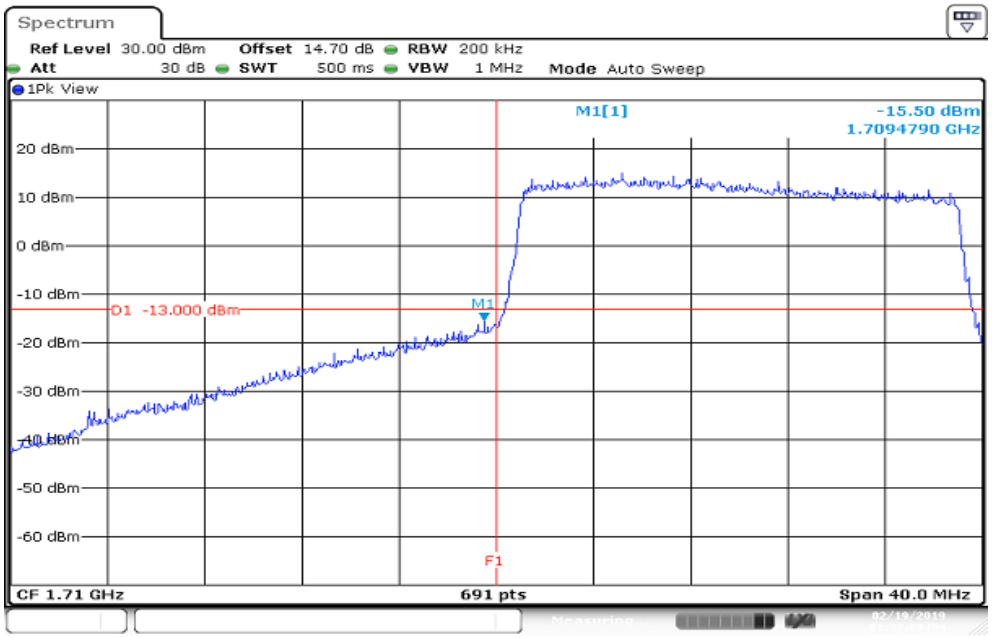
HIGHER BAND EDGE



Date: 19.FEB.2019 13:22:47

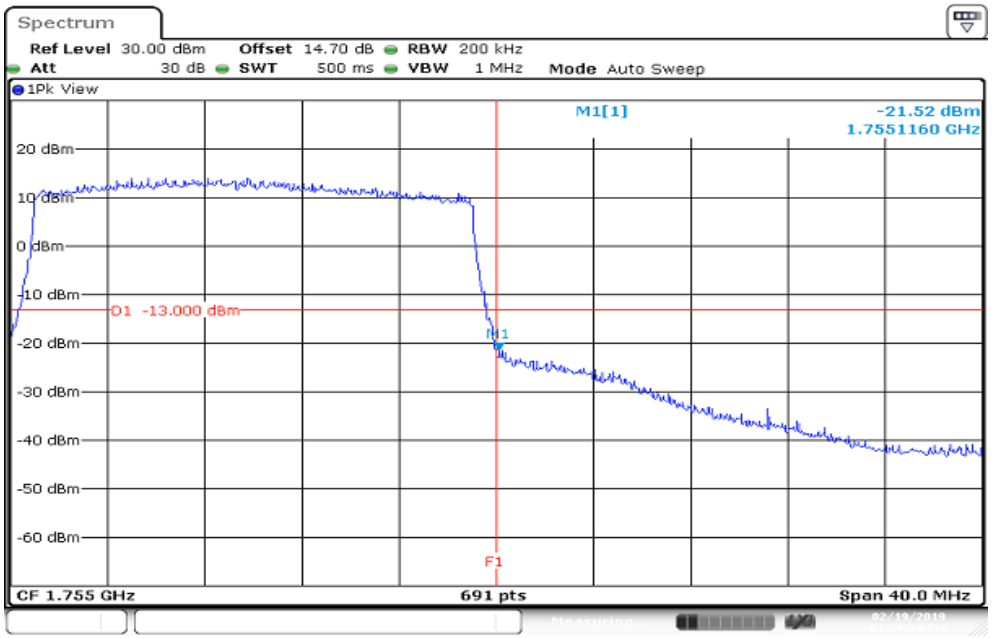
CHANNEL BANDWIDTH: 20MHz / 16QAM/ FULLRB ALLOCATION

LOWER BAND EDGE



Date: 19.FEB.2019 13:37:10

HIGHER BAND EDGE



Date: 19.FEB.2019 13:39:25

8.7 CONDUCTED SPURIOUS EMISSIONS

LIMITS

The power of any emission outside a licensee's frequency block shall be attenuated below the transmitter power (P) by at least 43 +10 log10(P) dB. The limit of emission equal to –13dBm

TEST PROCEDURES

According to KDB 971168D01, photograph 6.0

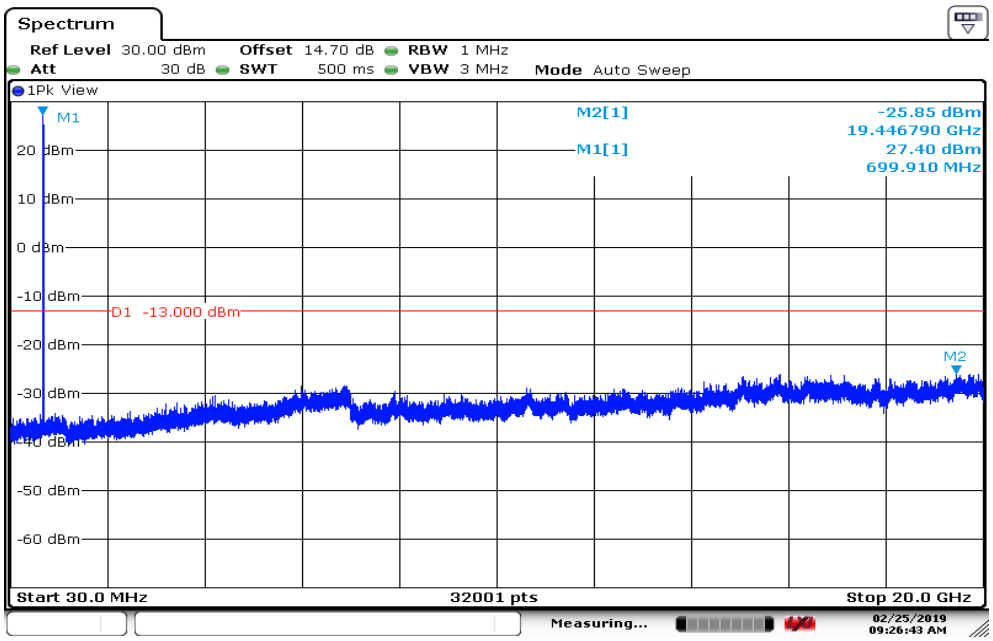
1. The EUT was connect to spectrum analyzer and call box.
2. The RF output of EUT was connected to the spectrum analyzer.
3. Set the spectrum analyzer , RBW=1MHz, VBW=3MHz.
4. Record the maximum spurious emission.
5. The fundamental frequency should be excluded against the limit in operating band.

TEST RESULTS

LTE Band 12

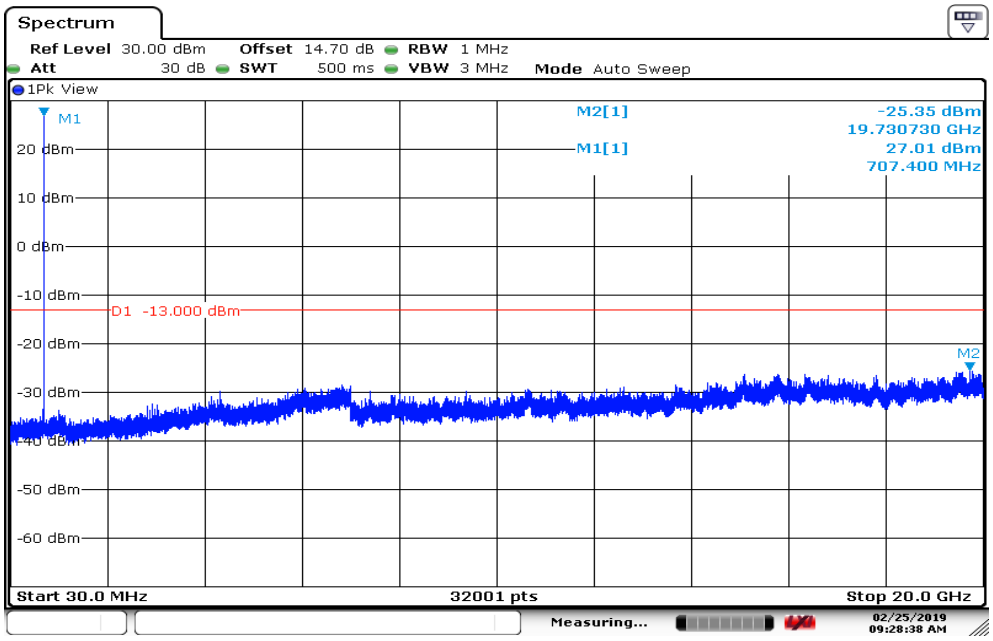
CHANNEL BANDWIDTH: 1.4MHz / QPSK

CH Low



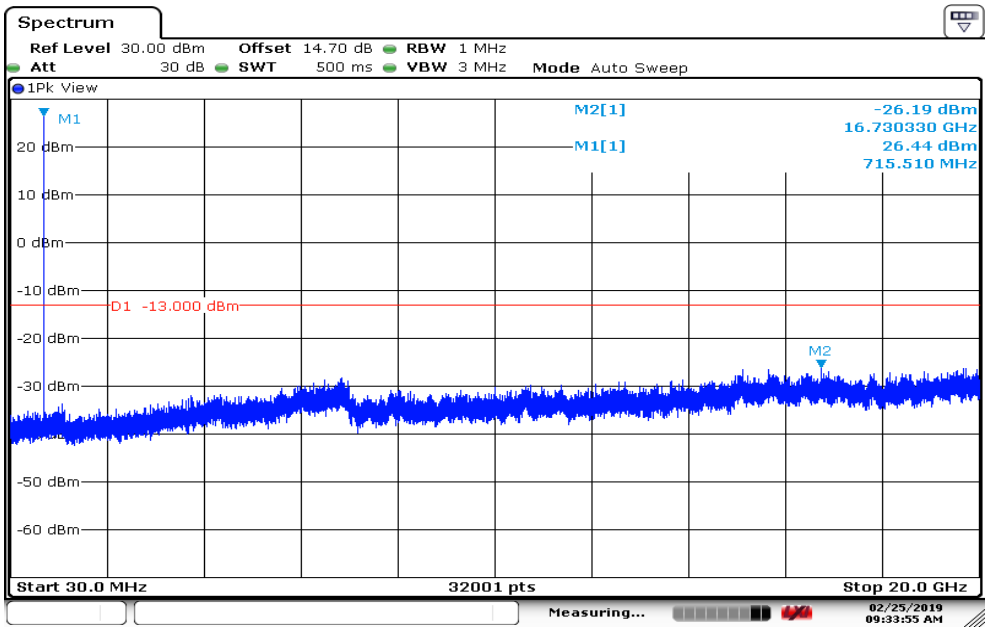
Date: 25.FEB.2019 09:26:43

CH Mid



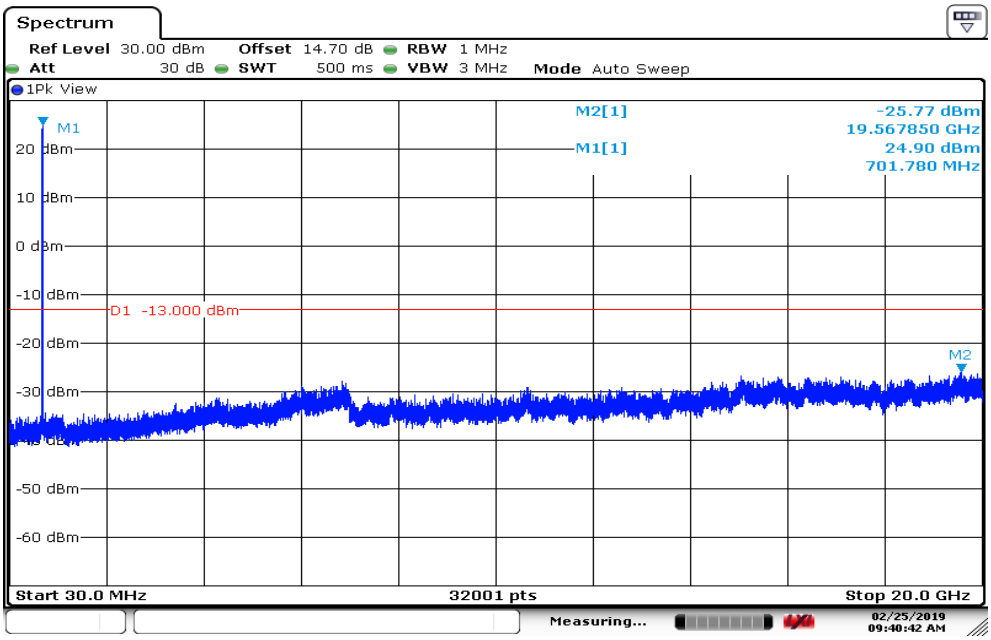
Date: 25.FEB.2019 09:28:39

CH High



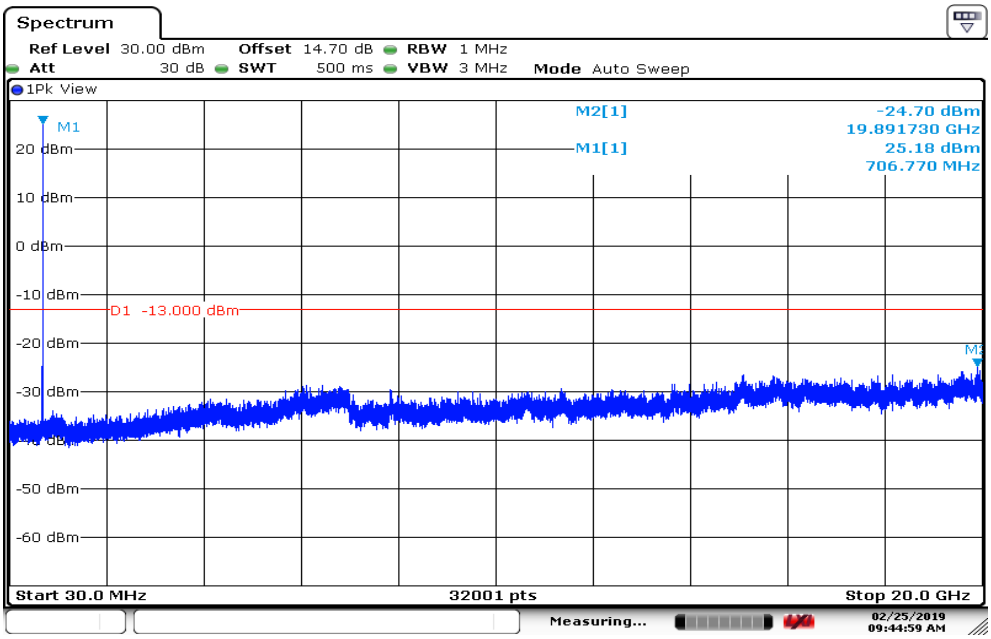
Date: 25.FEB.2019 09:33:56

CHANNEL BANDWIDTH: 3MHz / QPSK
CH Low



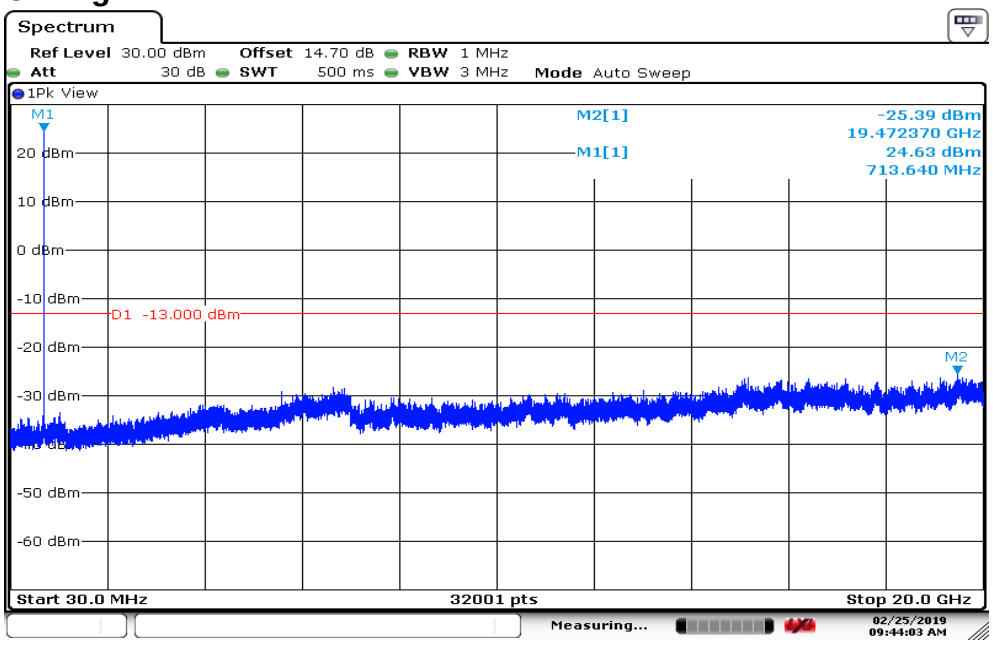
Date: 25.FEB.2019 09:40:42

CH Mid



Date: 25.FEB.2019 09:44:59

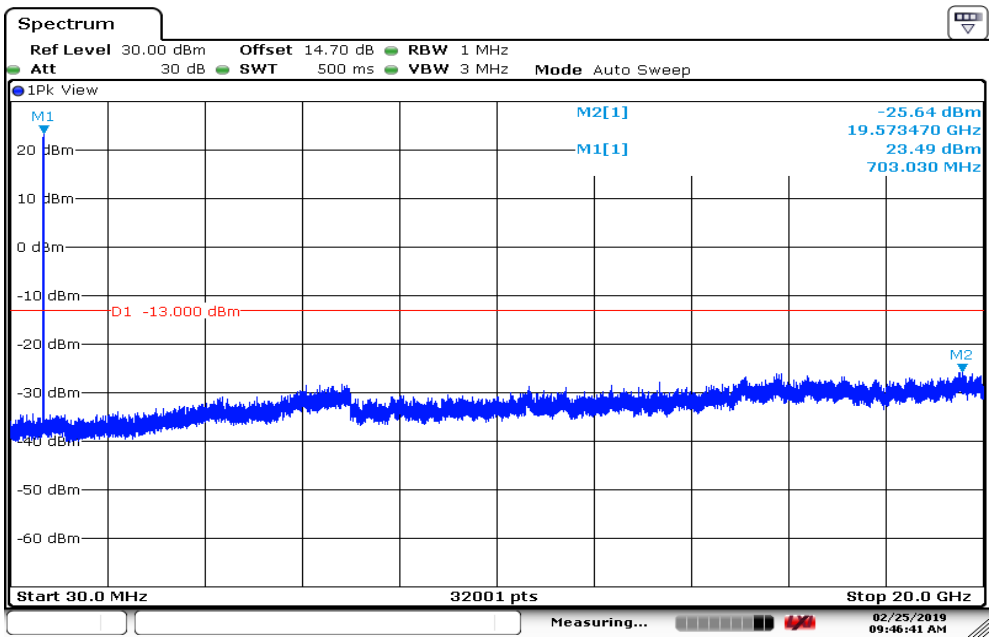
CH High



Date: 25.FEB.2019 09:44:03

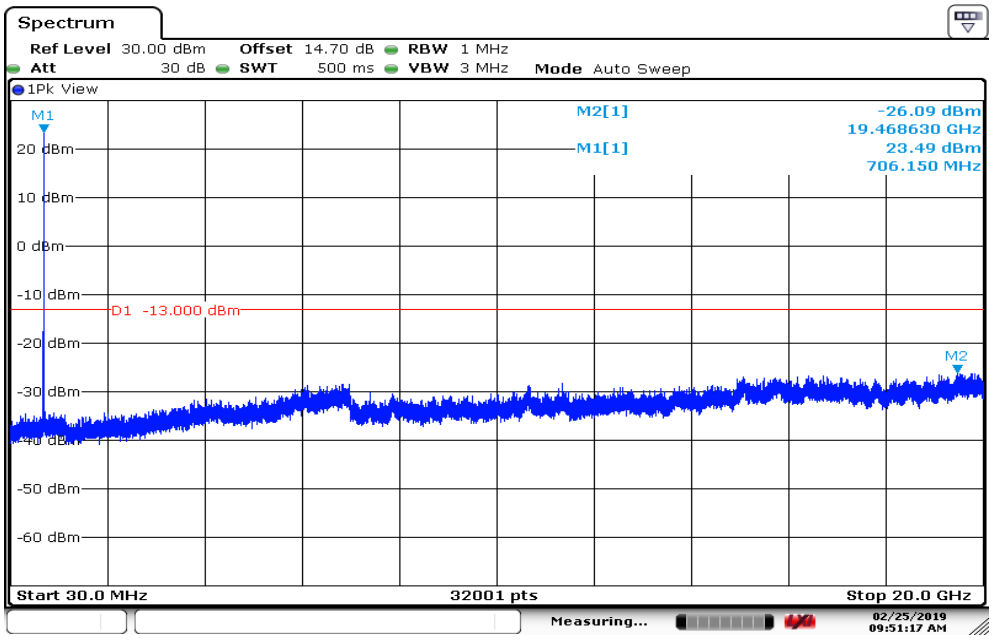
CHANNEL BANDWIDTH: 5MHz / QPSK

CH Low



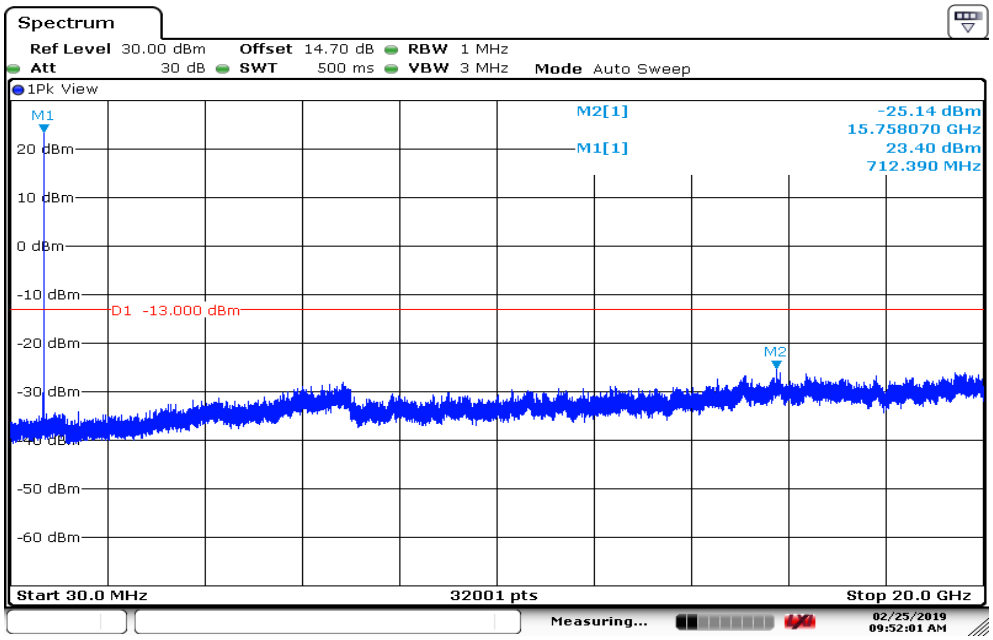
Date: 25.FEB.2019 09:46:42

CH Mid



Date: 25.FEB.2019 09:51:17

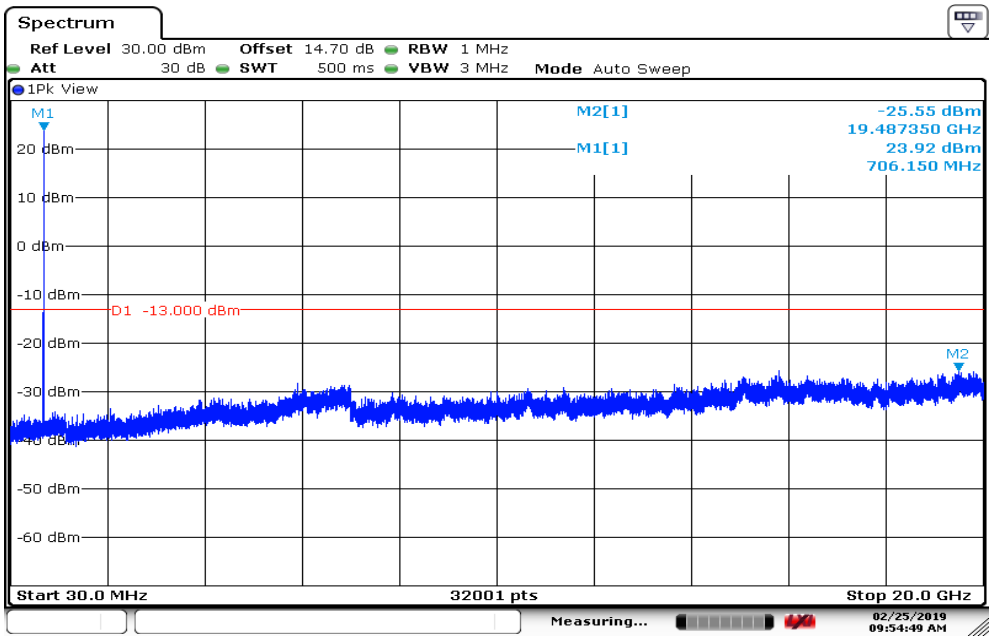
CH High



Date: 25.FEB.2019 09:52:01

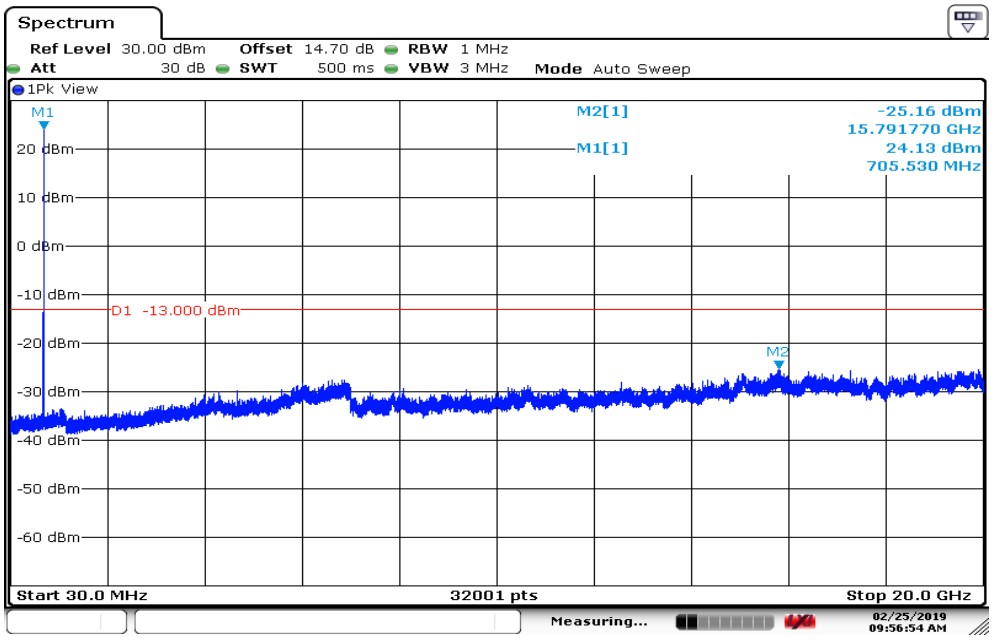
CHANNEL BANDWIDTH: 10MHz / QPSK

CH Low



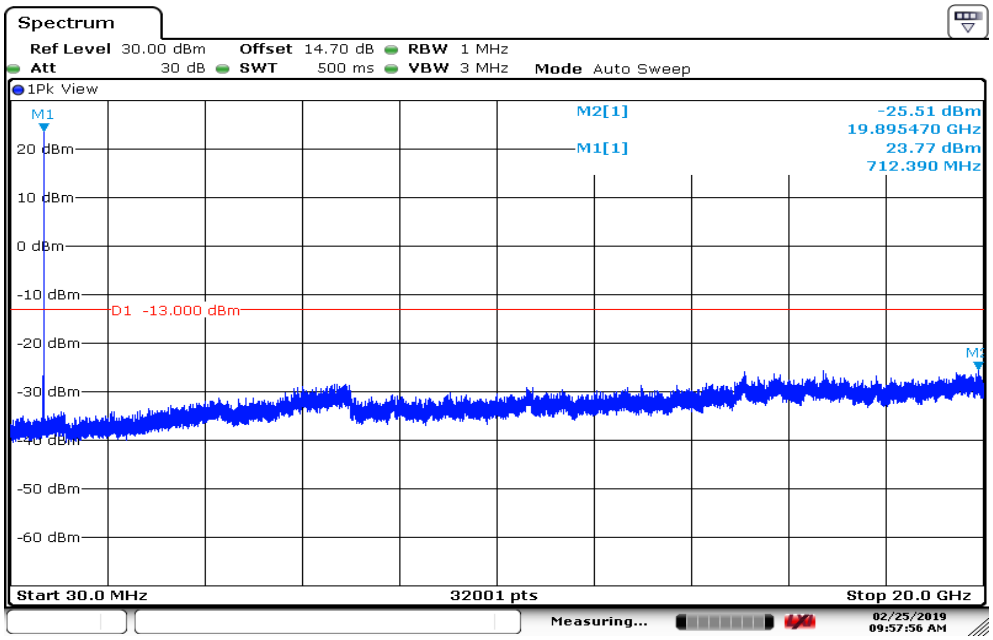
Date: 25.FEB.2019 09:54:50

CH Mid



Date: 25.FEB.2019 09:56:54

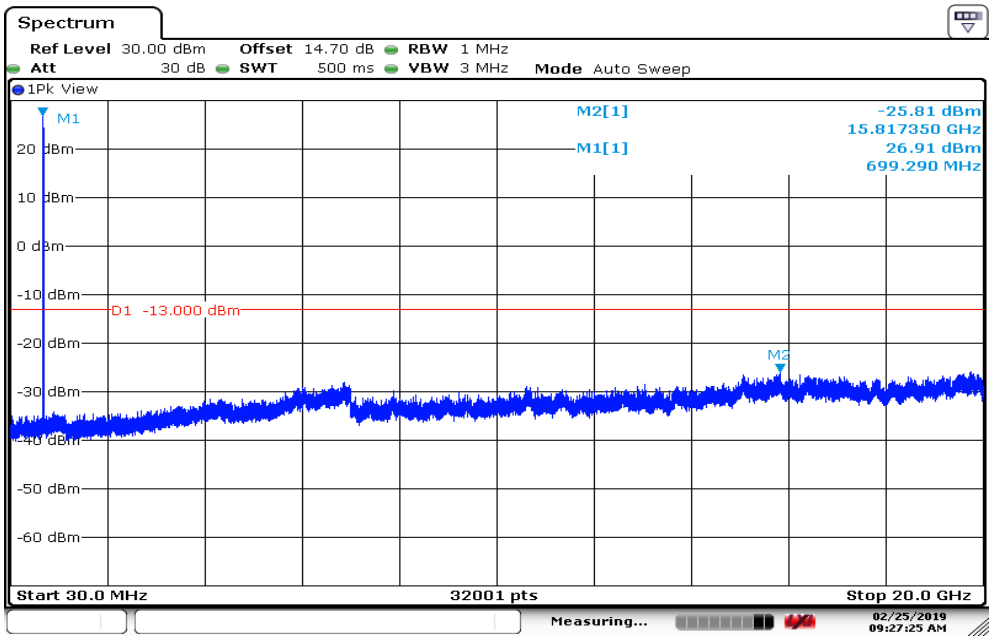
CH High



Date: 25.FEB.2019 09:57:56

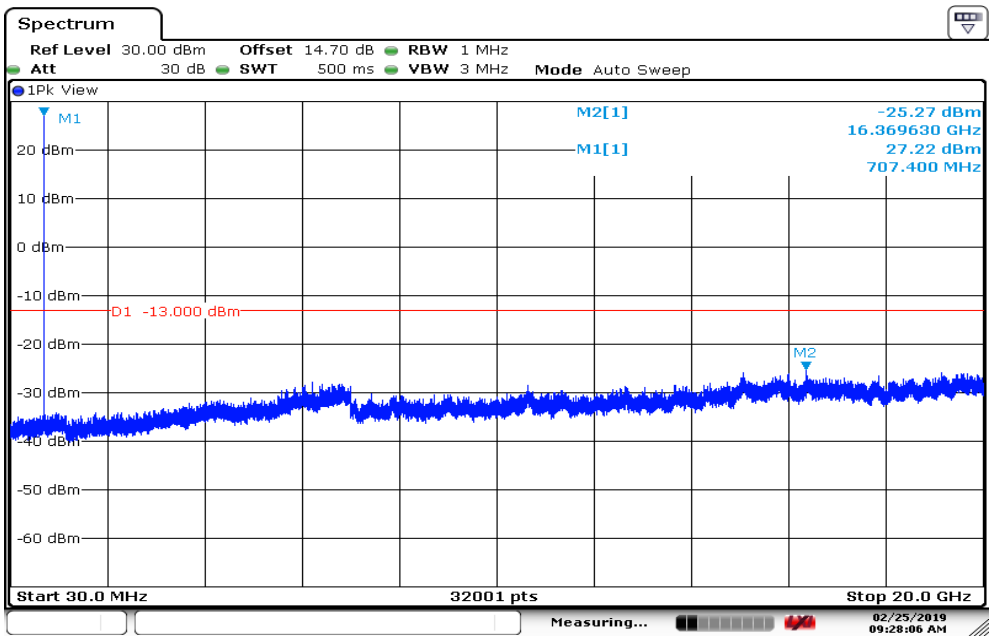
CHANNEL BANDWIDTH: 1.4MHz / 16QAM

CH Low



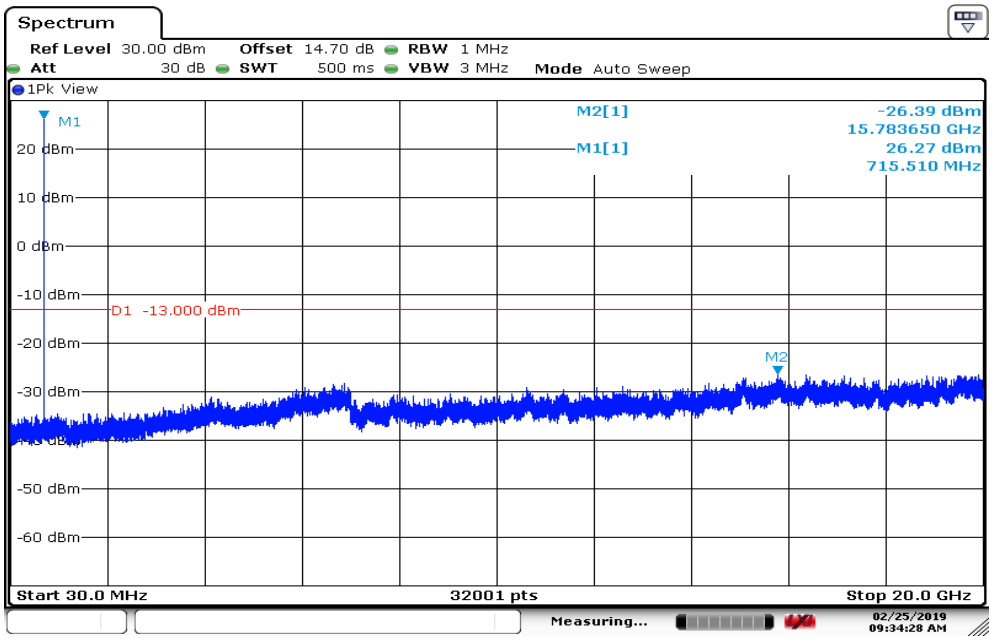
Date: 25.FEB.2019 09:27:25

CH Mid



Date: 25.FEB.2019 09:28:07

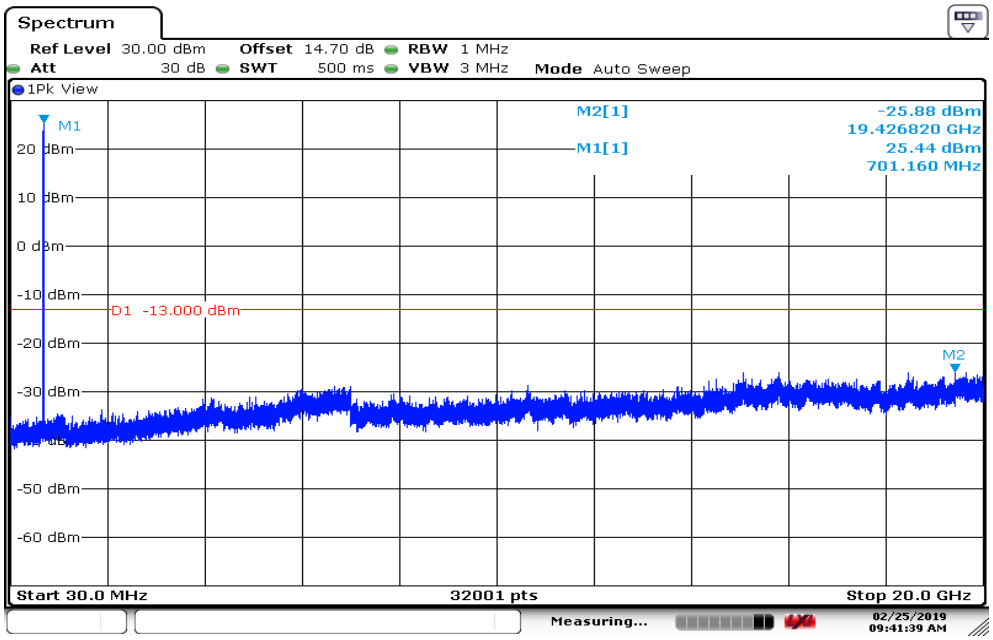
CH High



Date: 25.FEB.2019 09:34:28

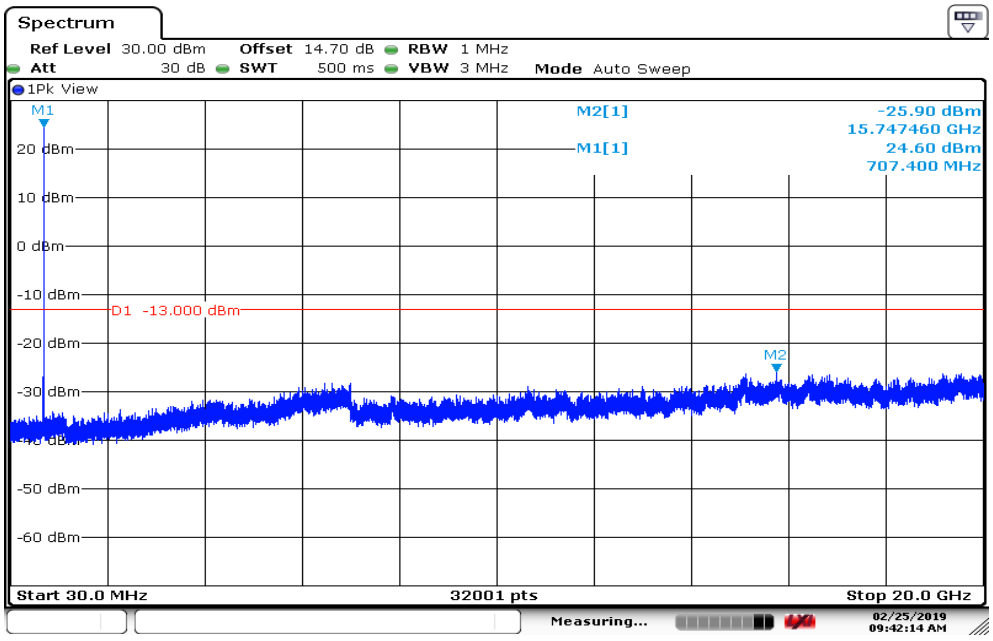
CHANNEL BANDWIDTH: 3MHz / 16QAM

CH Low



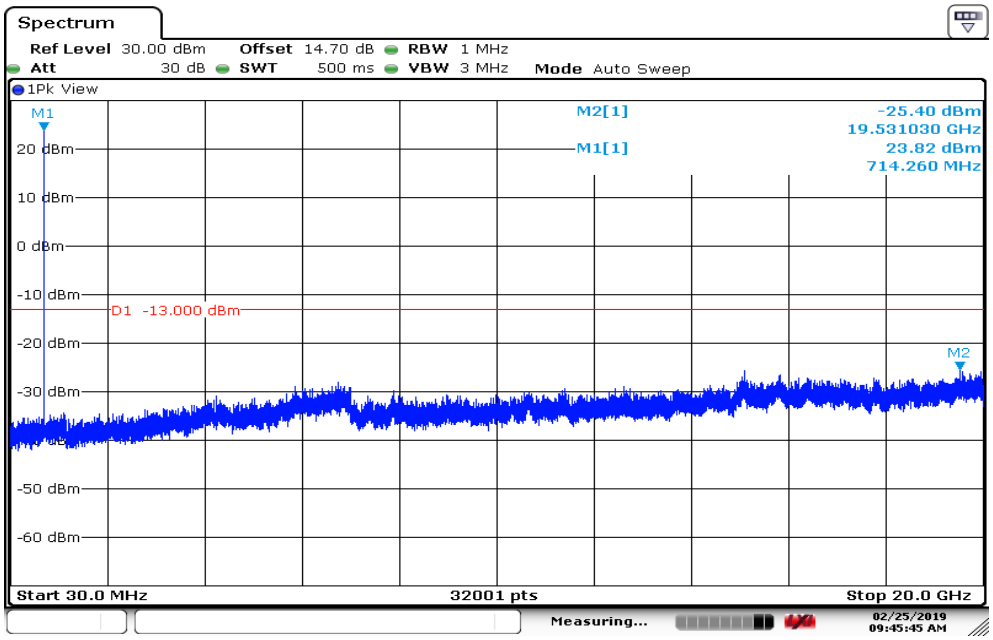
Date: 25.FEB.2019 09:41:40

CH Mid



Date: 25.FEB.2019 09:42:14

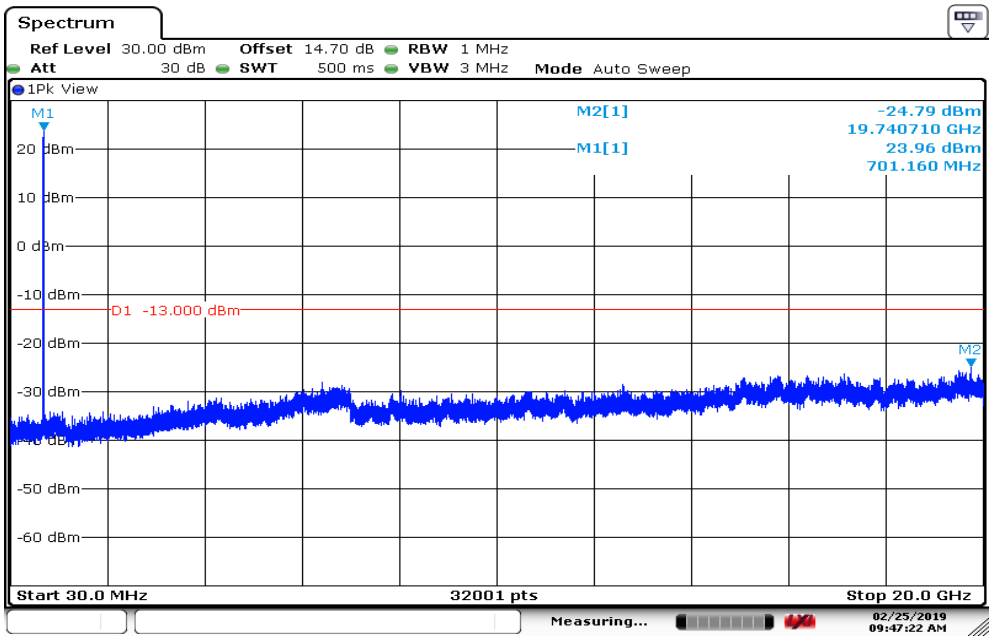
CH High



Date: 25.FEB.2019 09:45:46

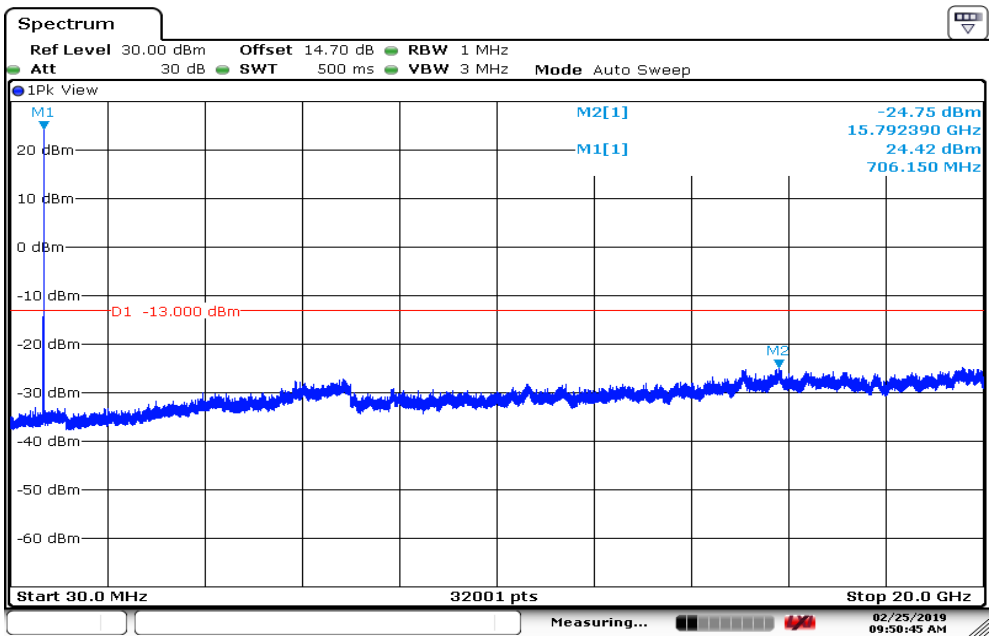
CHANNEL BANDWIDTH: 5MHz / 16QAM

CH Low



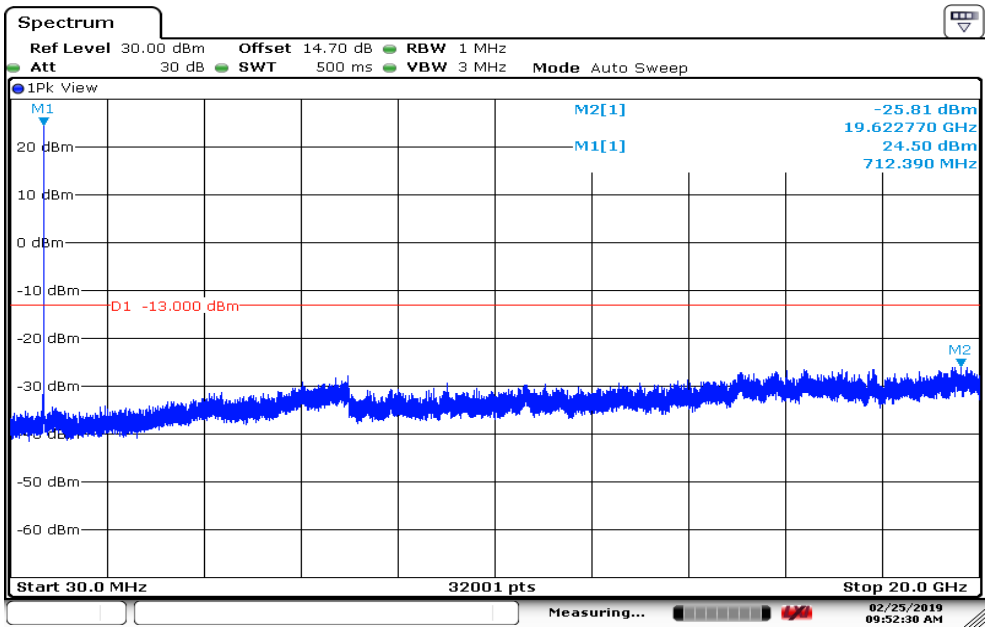
Date: 25.FEB.2019 09:47:22

CH Mid



Date: 25.FEB.2019 09:50:45

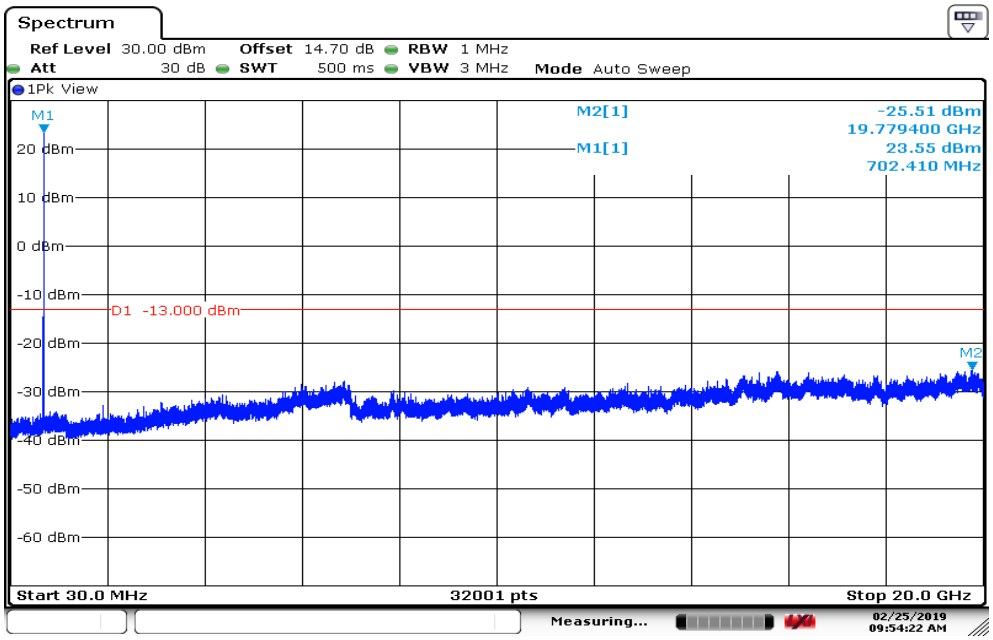
CH High



Date: 25.FEB.2019 09:52:31

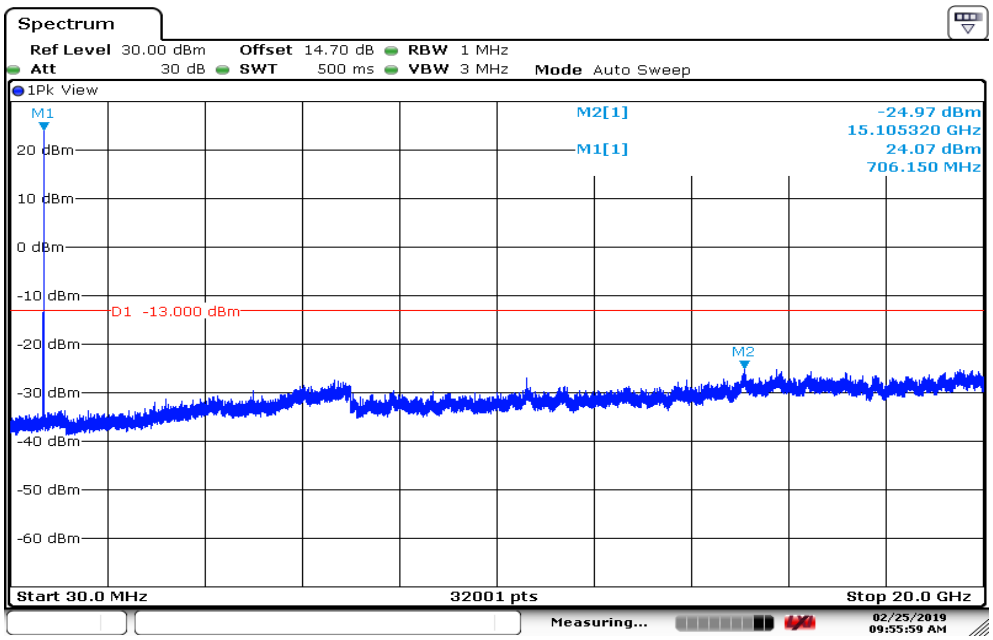
CHANNEL BANDWIDTH: 10MHz / 16QAM

CH Low



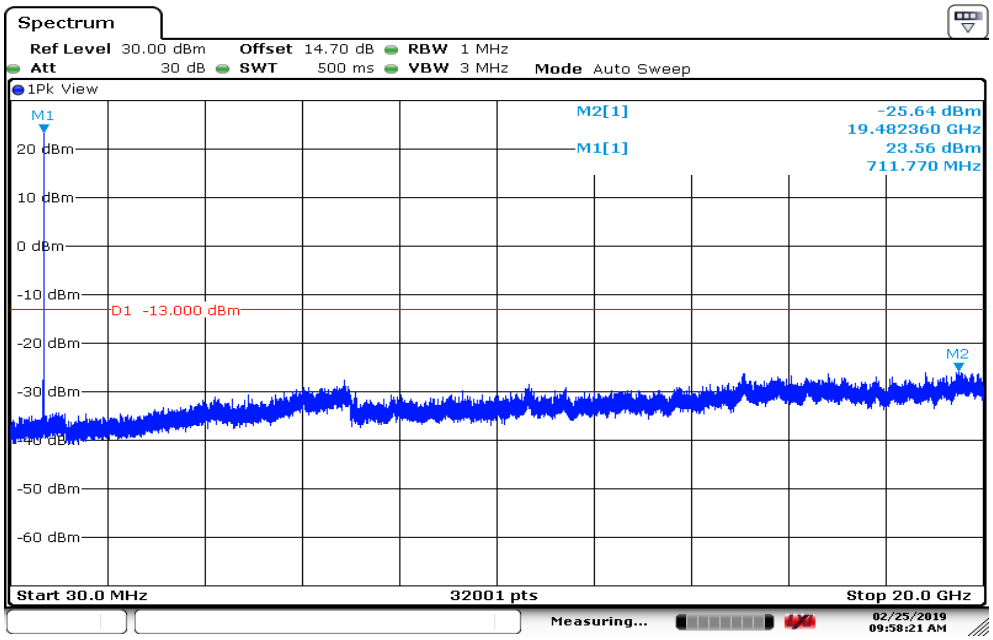
Date: 25.FEB.2019 09:54:22

CH Mid



Date: 25.FEB.2019 09:56:00

CH High

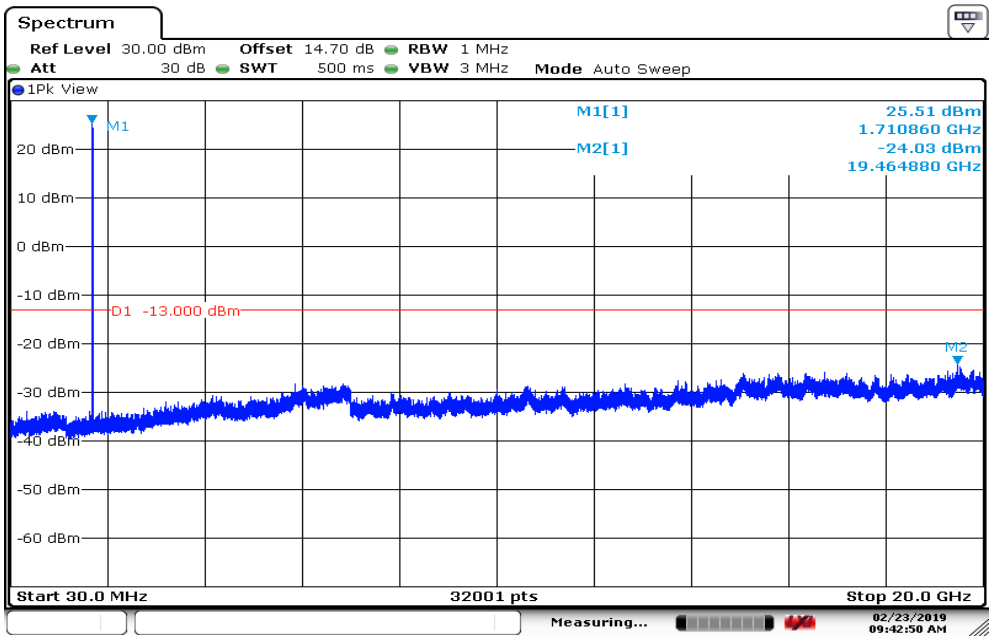


Date: 25.FEB.2019 09:58:21

LTE Band 4

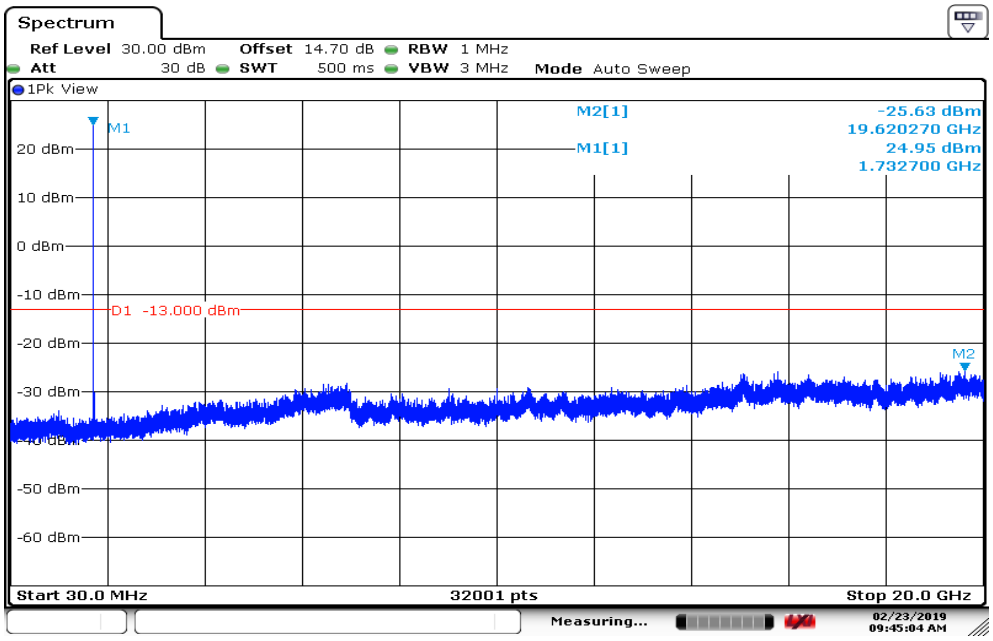
CHANNEL BANDWIDTH: 1.4MHz / QPSK

CH Low



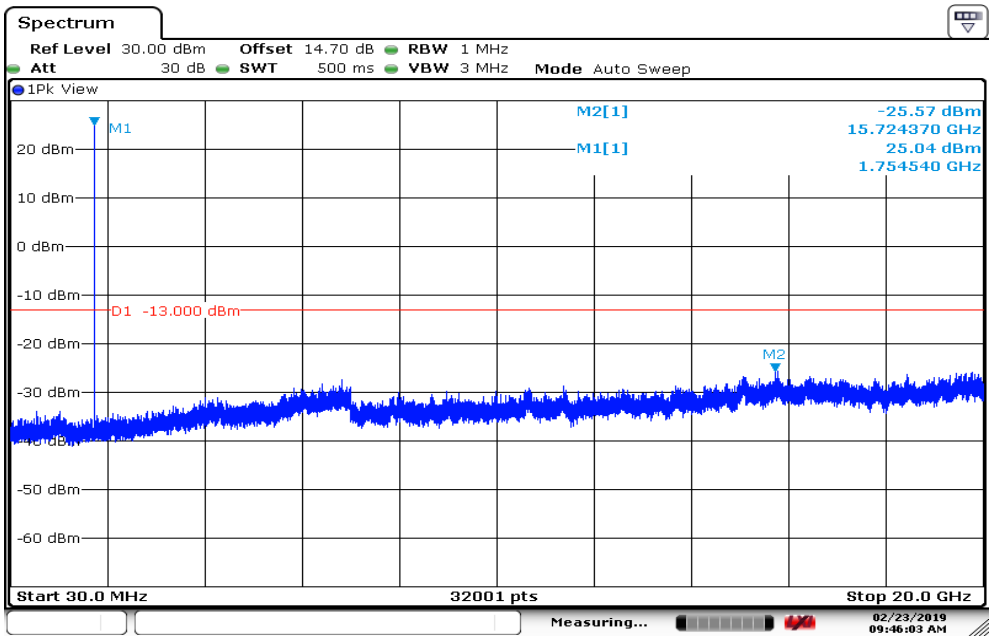
Date: 23.FEB.2019 09:42:50

CH Mid



Date: 23.FEB.2019 09:45:05

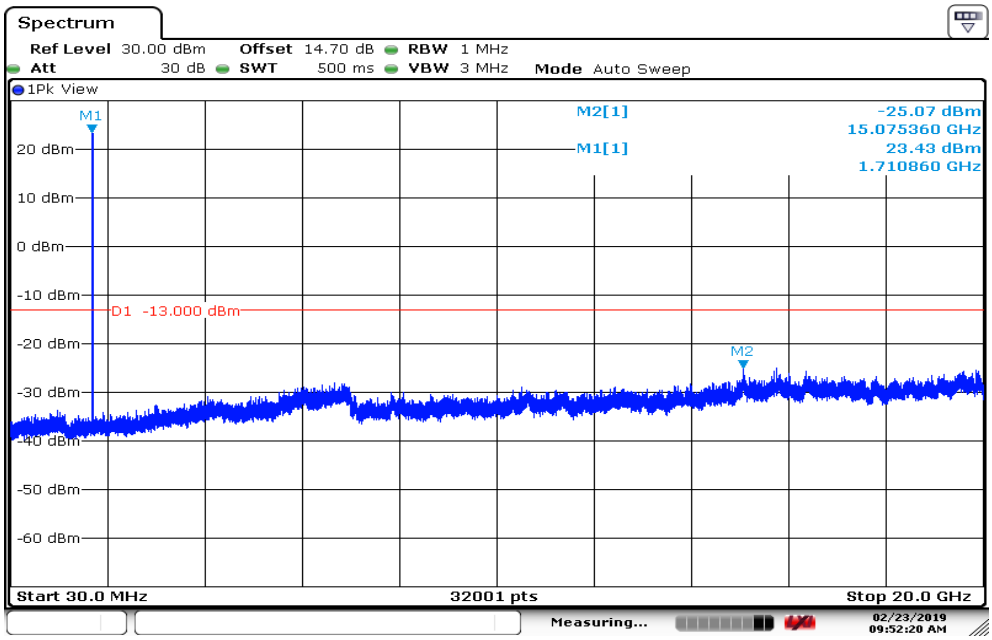
CH High



Date: 23.FEB.2019 09:46:03

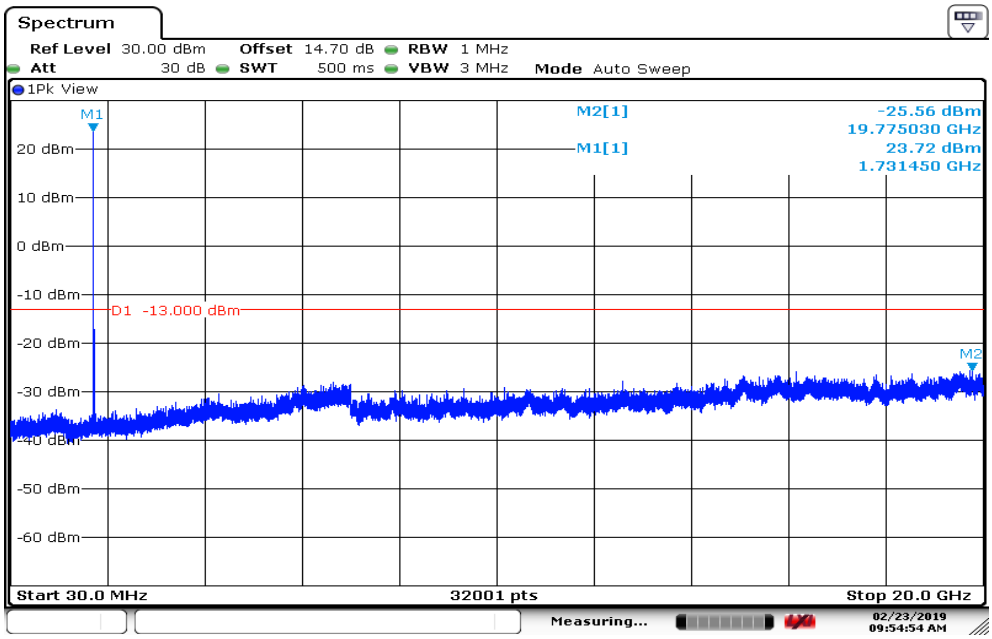
CHANNEL BANDWIDTH: 3MHz /QPSK

CH Low



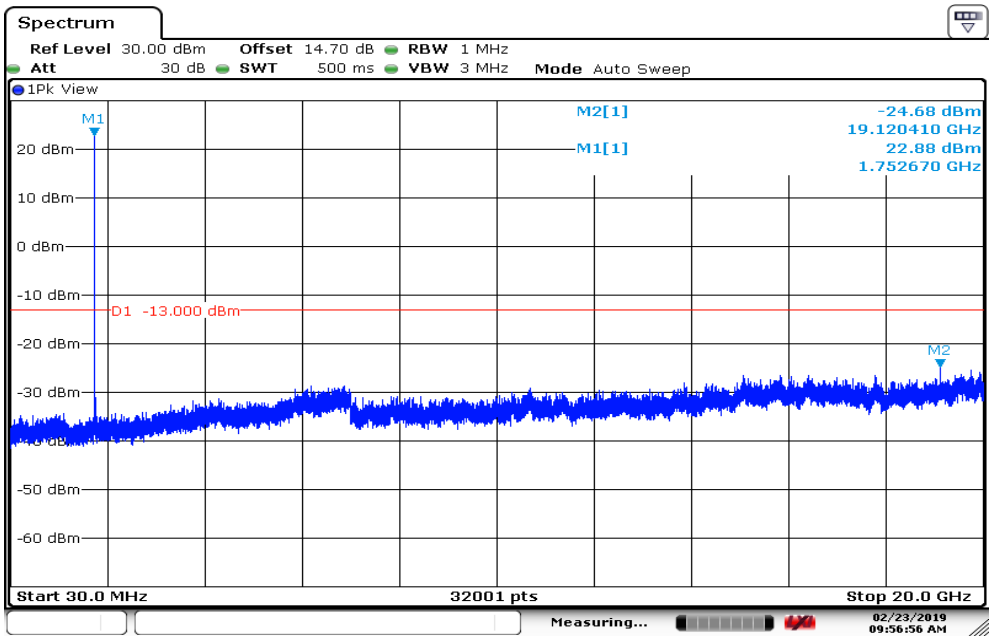
Date: 23.FEB.2019 09:52:20

CH Mid



Date: 23.FEB.2019 09:54:55

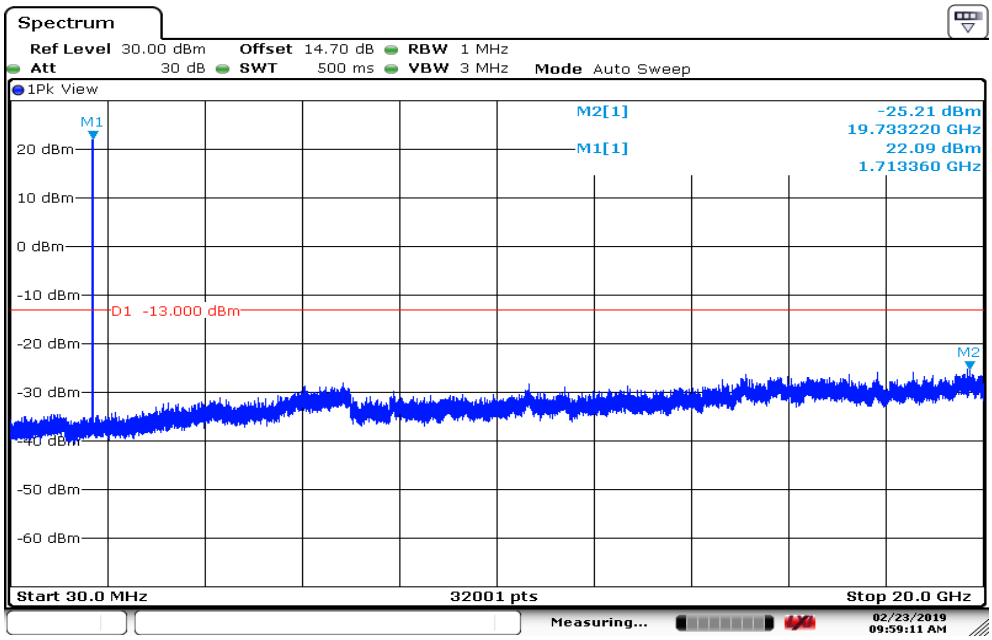
CH High



Date: 23.FEB.2019 09:56:56

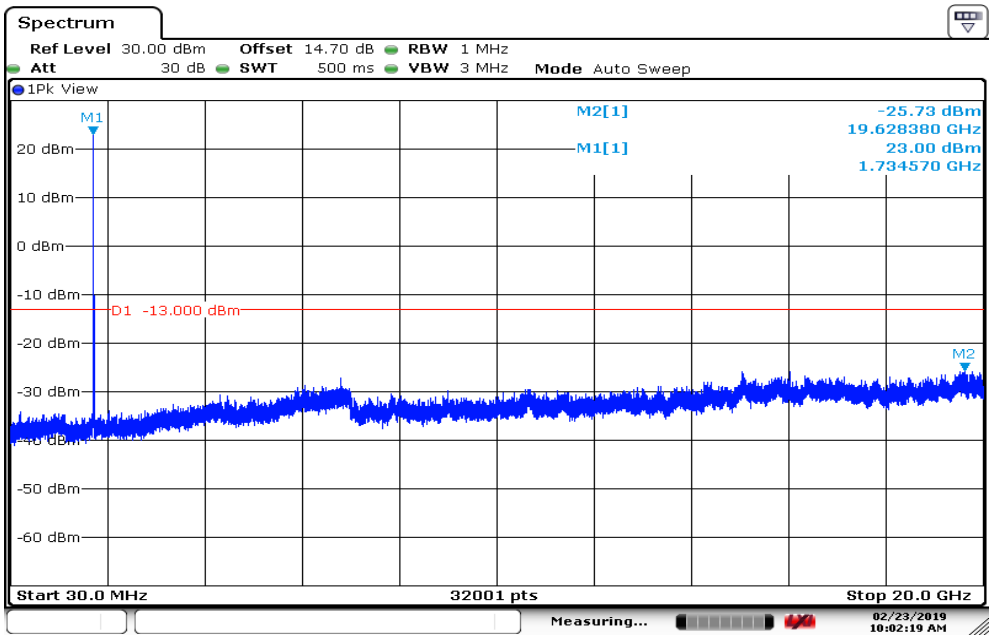
CHANNEL BANDWIDTH: 5MHz /QPSK

CH Low



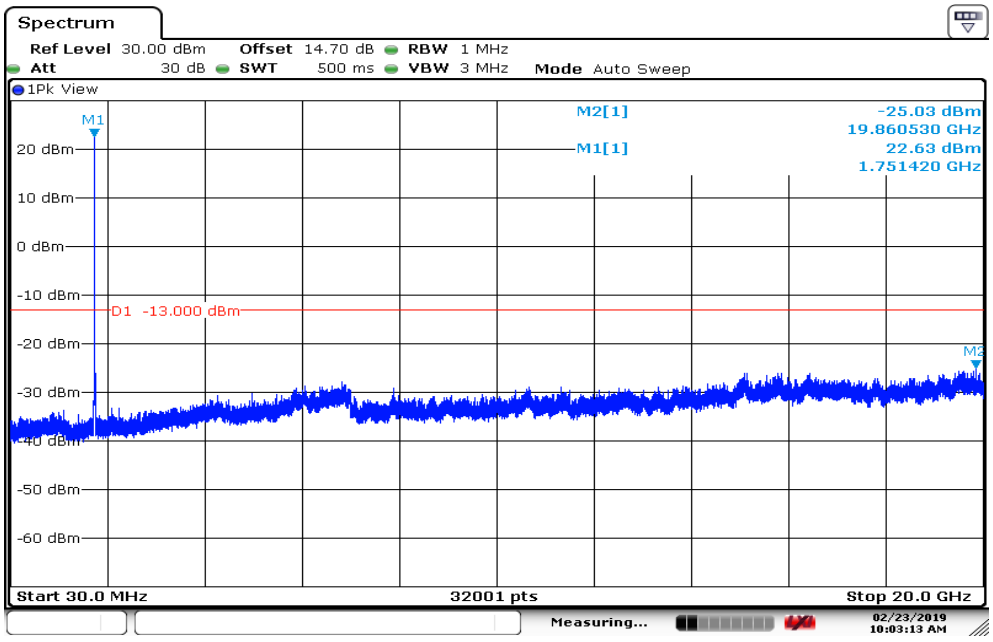
Date: 23.FEB.2019 09:59:12

CH Mid



Date: 23.FEB.2019 10:02:19

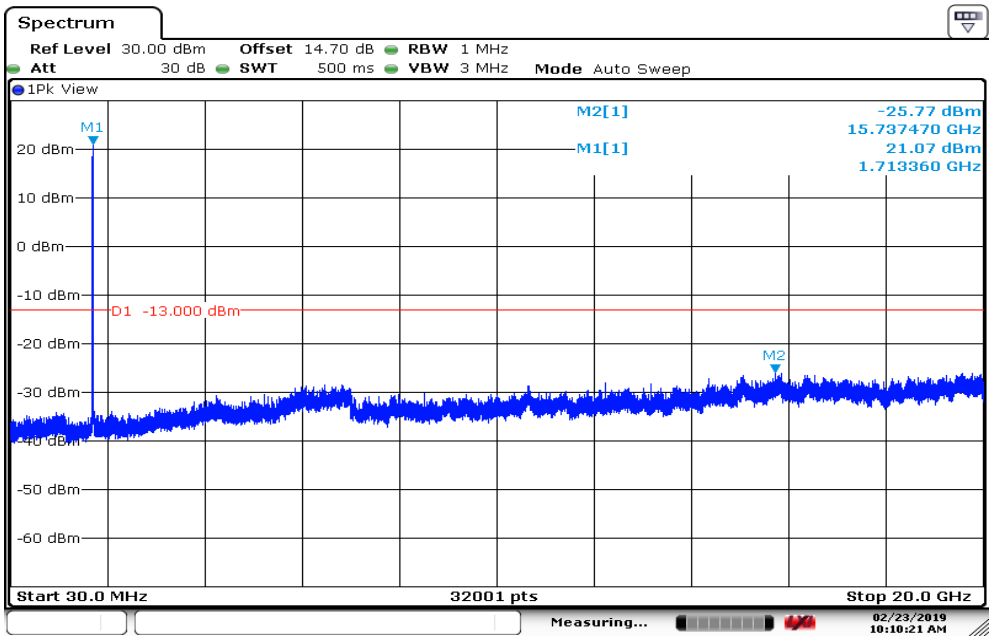
CH High



Date: 23.FEB.2019 10:03:13

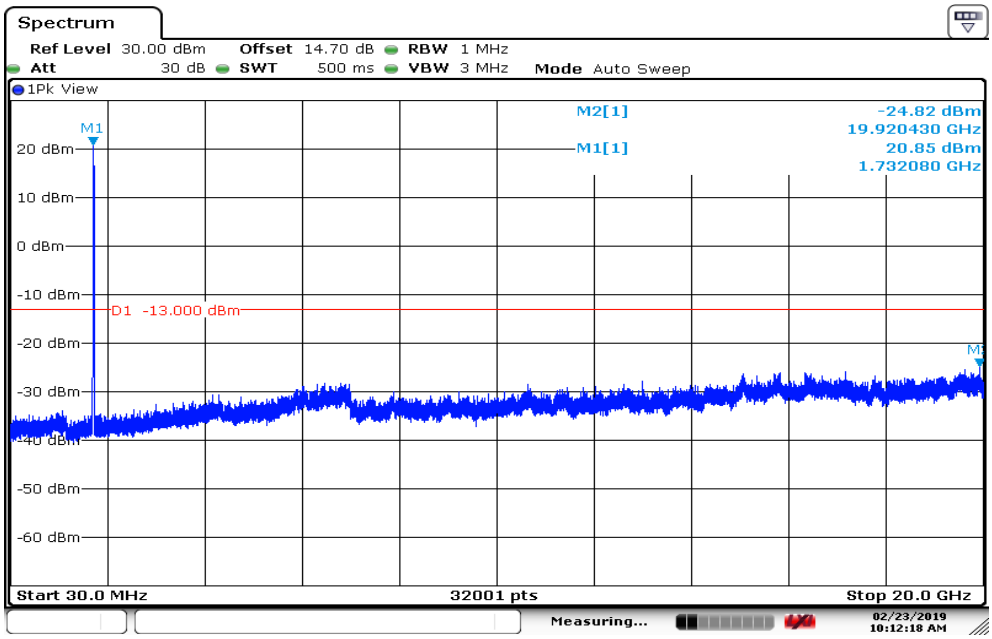
CHANNEL BANDWIDTH: 10MHz /QPSK

CH Low



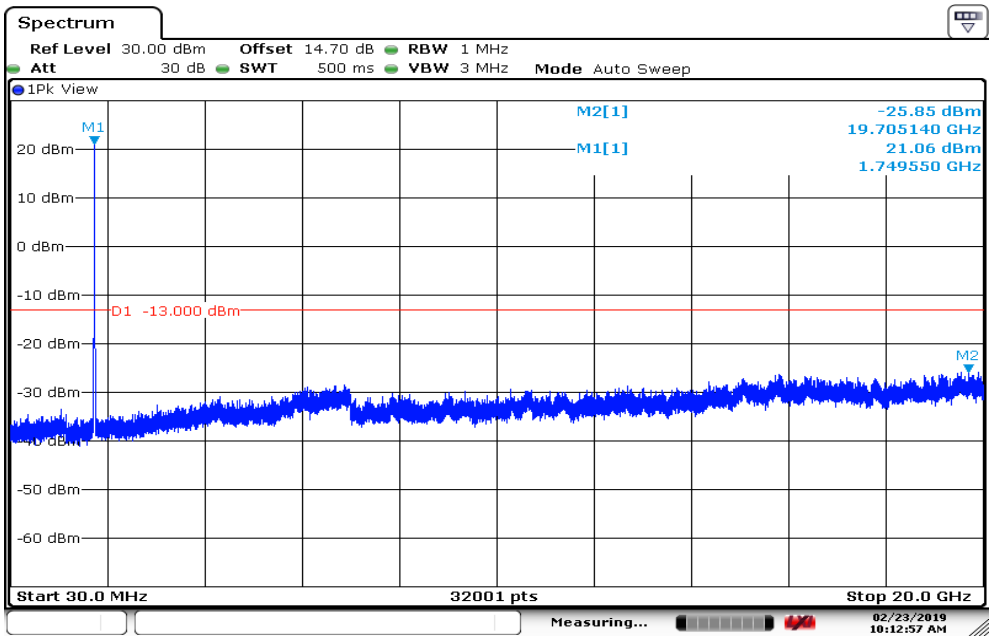
Date: 23.FEB.2019 10:10:21

CH Mid



Date: 23.FEB.2019 10:12:19

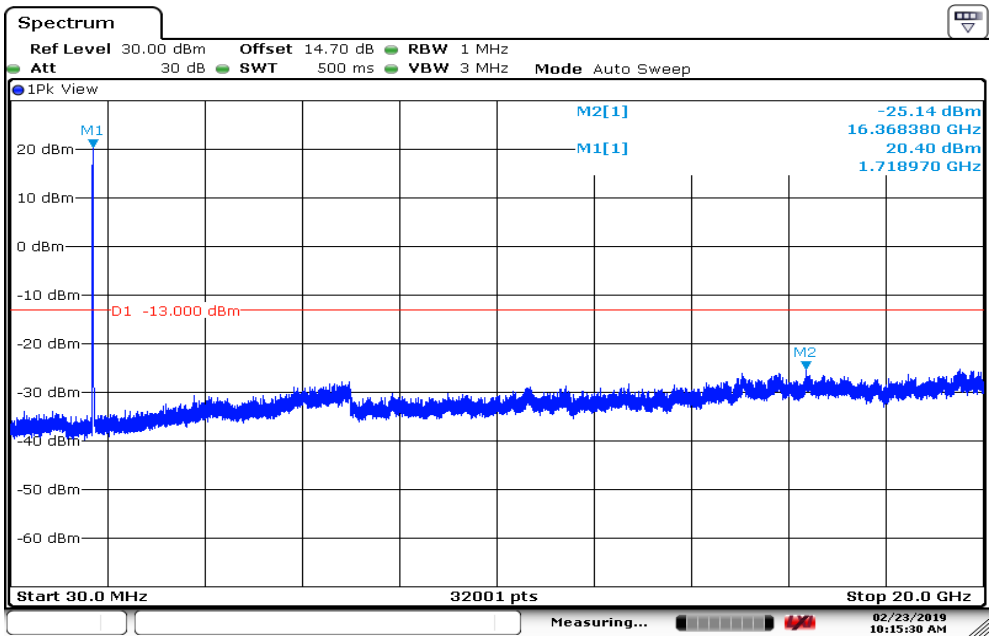
CH High



Date: 23.FEB.2019 10:12:58

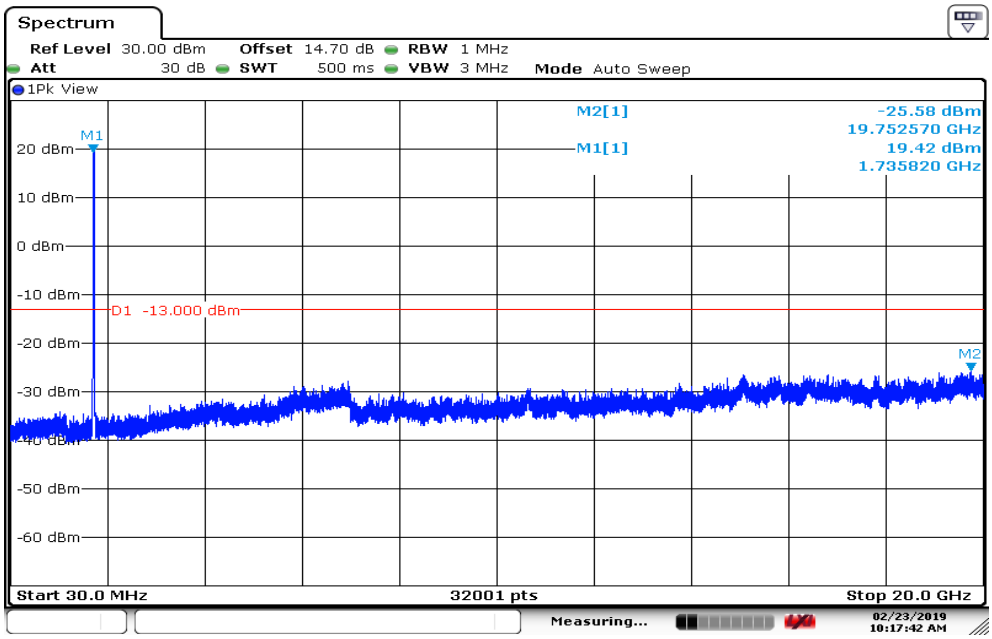
CHANNEL BANDWIDTH: 15MHz /QPSK

CH Low



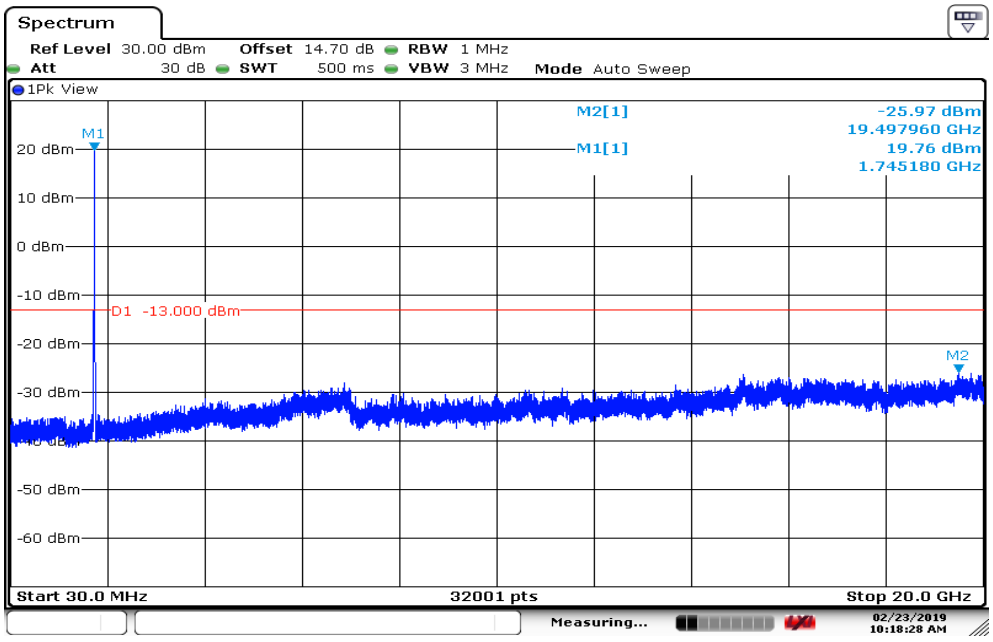
Date: 23.FEB.2019 10:15:30

CH Mid



Date: 23.FEB.2019 10:17:42

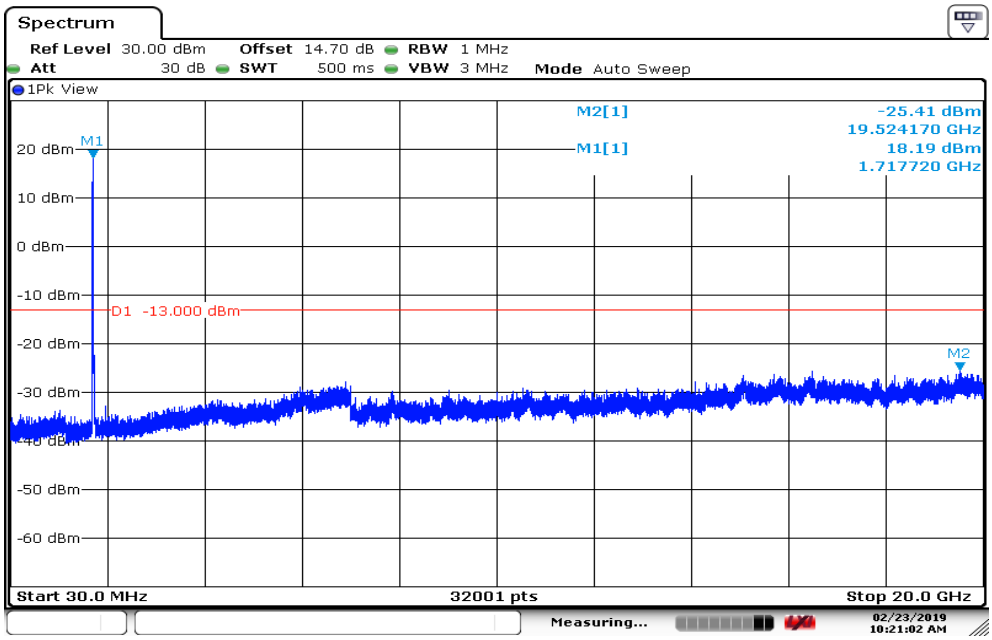
CH High



Date: 23.FEB.2019 10:18:29

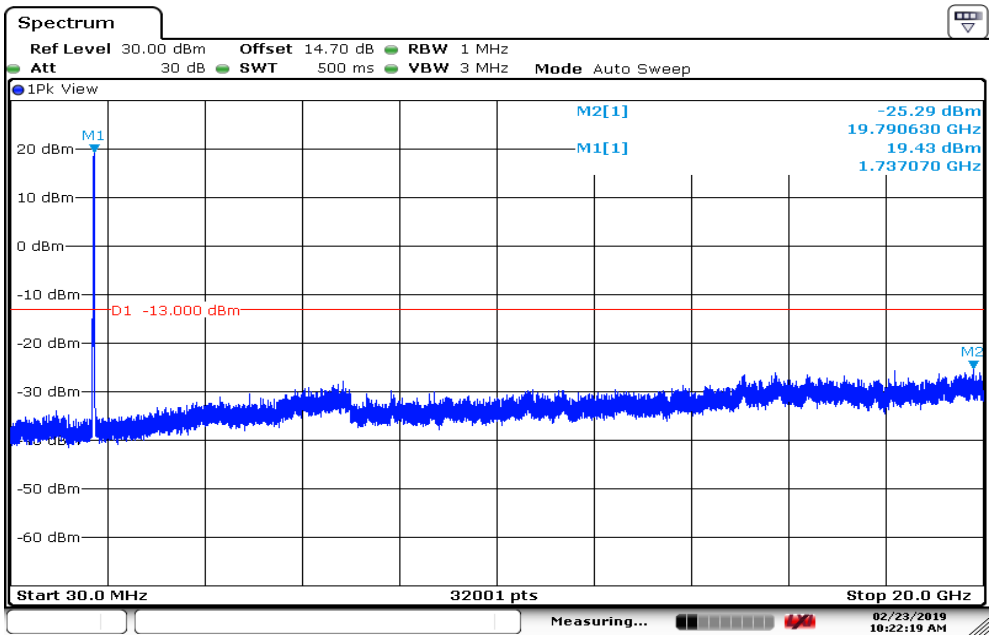
CHANNEL BANDWIDTH: 20MHz /QPSK

CH Low



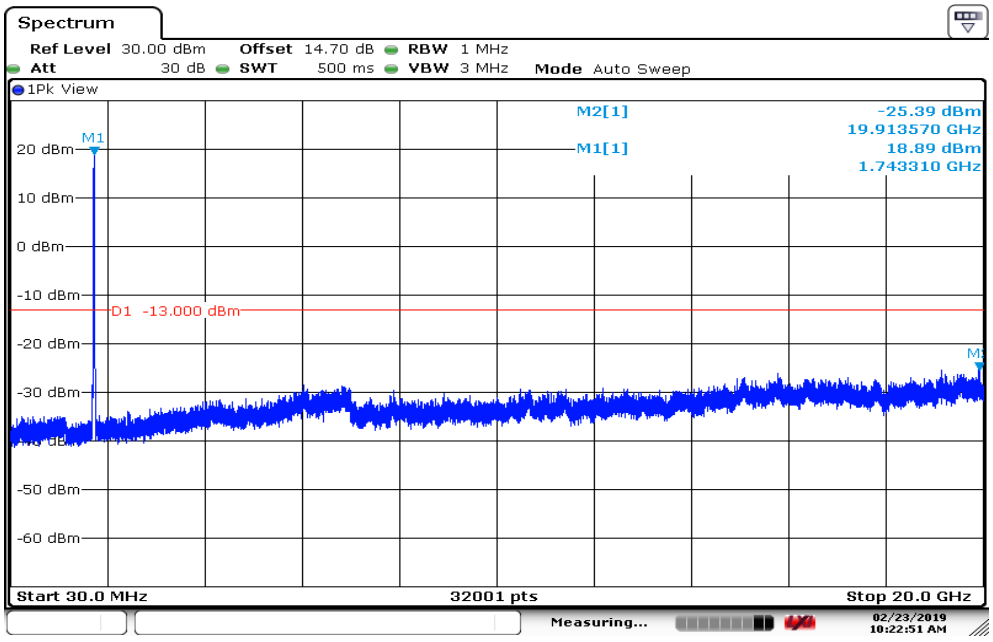
Date: 23.FEB.2019 10:21:02

CH Mid



Date: 23.FEB.2019 10:22:19

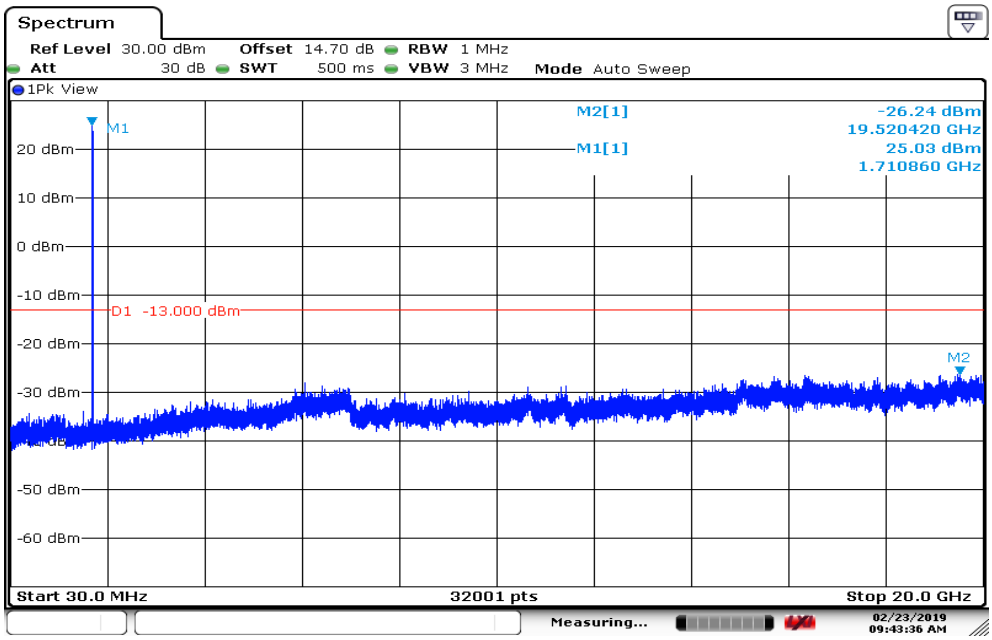
CH High



Date: 23.FEB.2019 10:22:52

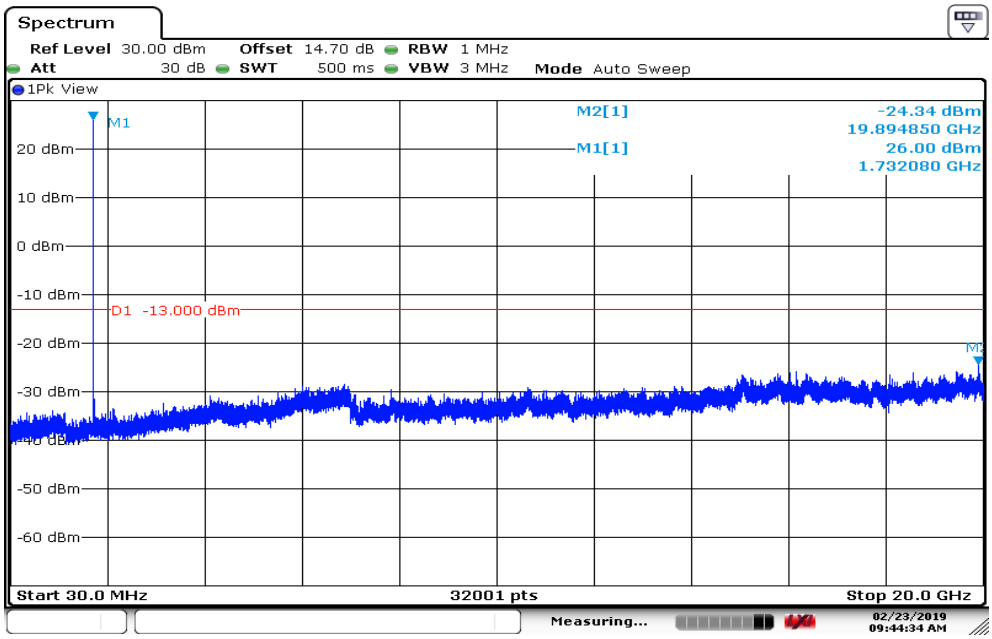
CHANNEL BANDWIDTH:1.4MHz /16QAM

CH Low



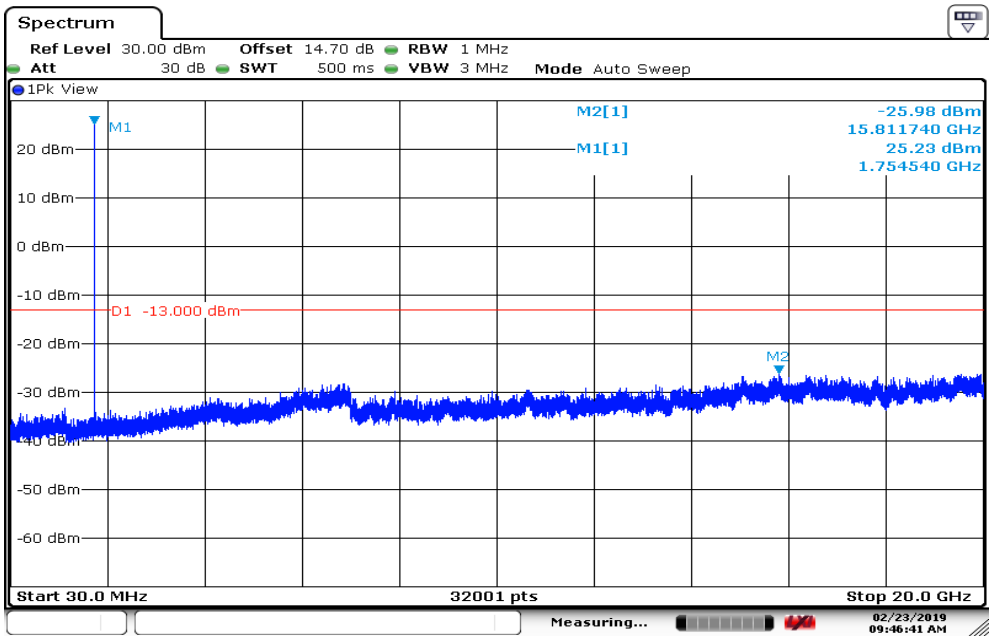
Date: 23.FEB.2019 09:43:36

CH Mid



Date: 23.FEB.2019 09:44:35

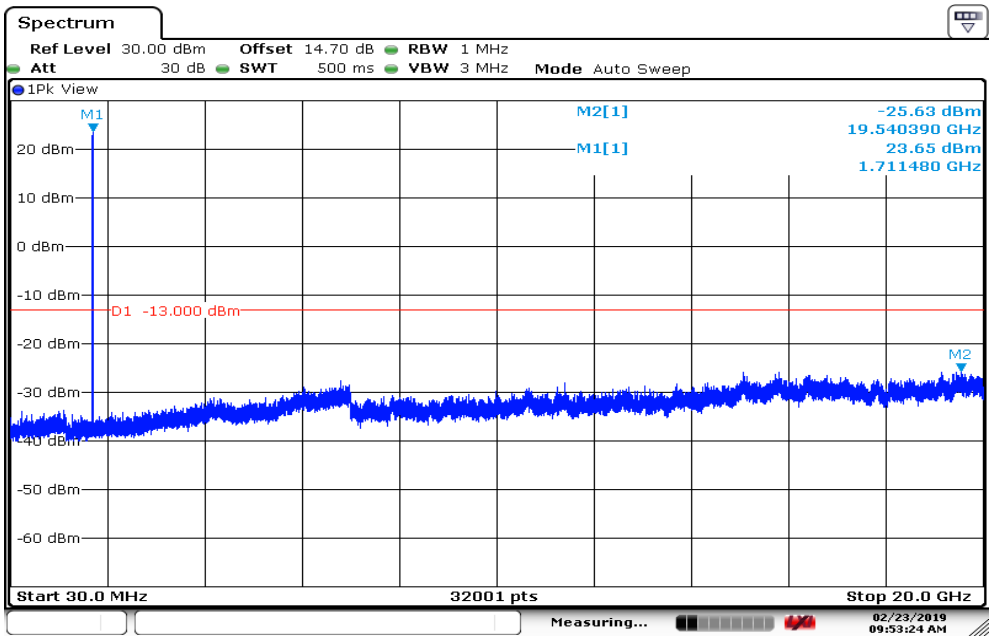
CH High



Date: 23.FEB.2019 09:46:41

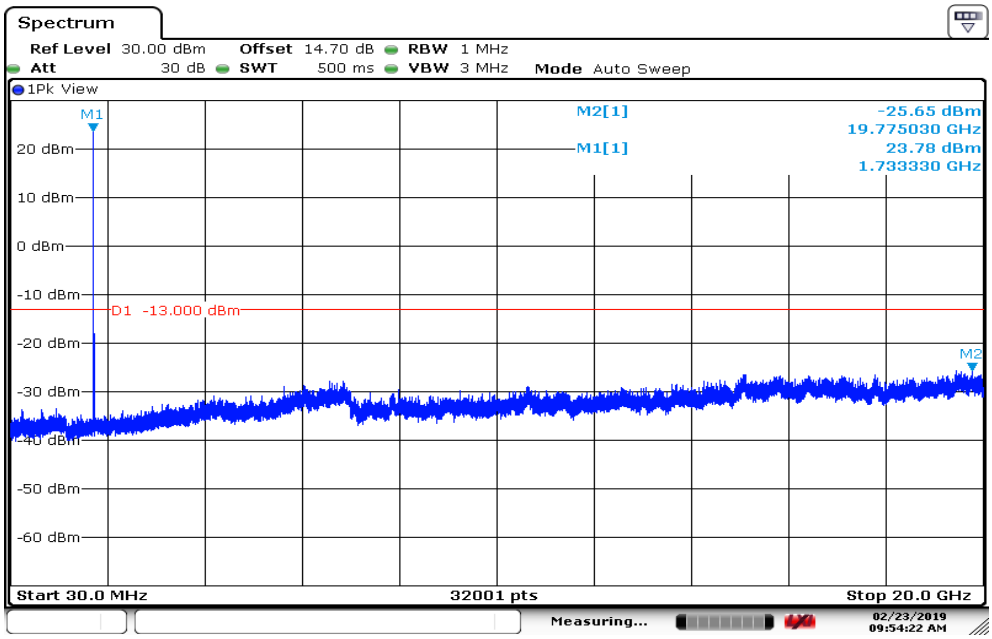
CHANNEL BANDWIDTH:3MHz /16QAM

CH Low



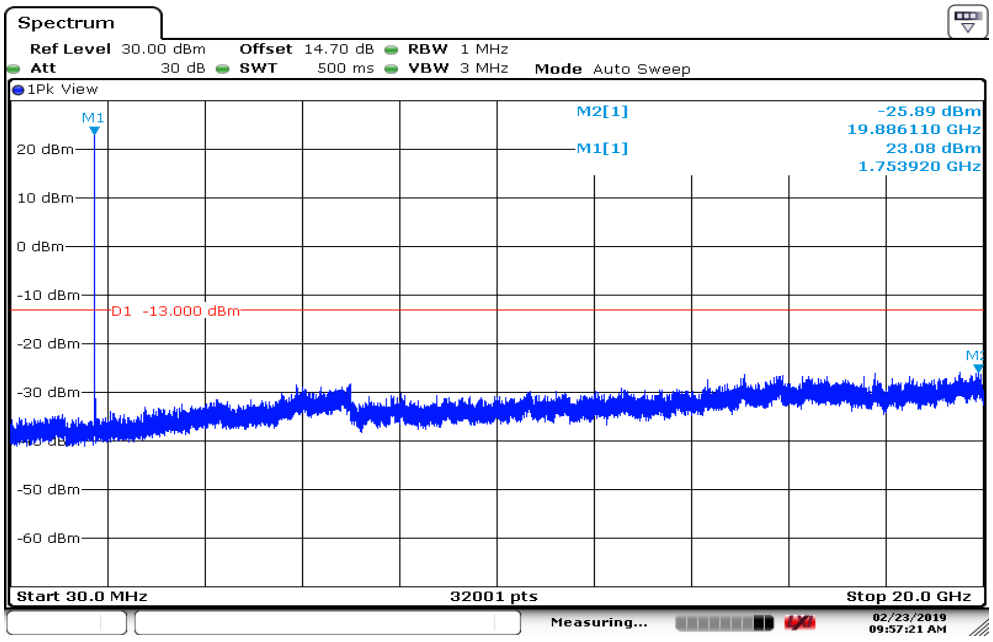
Date: 23.FEB.2019 09:53:24

CH Mid



Date: 23.FEB.2019 09:54:23

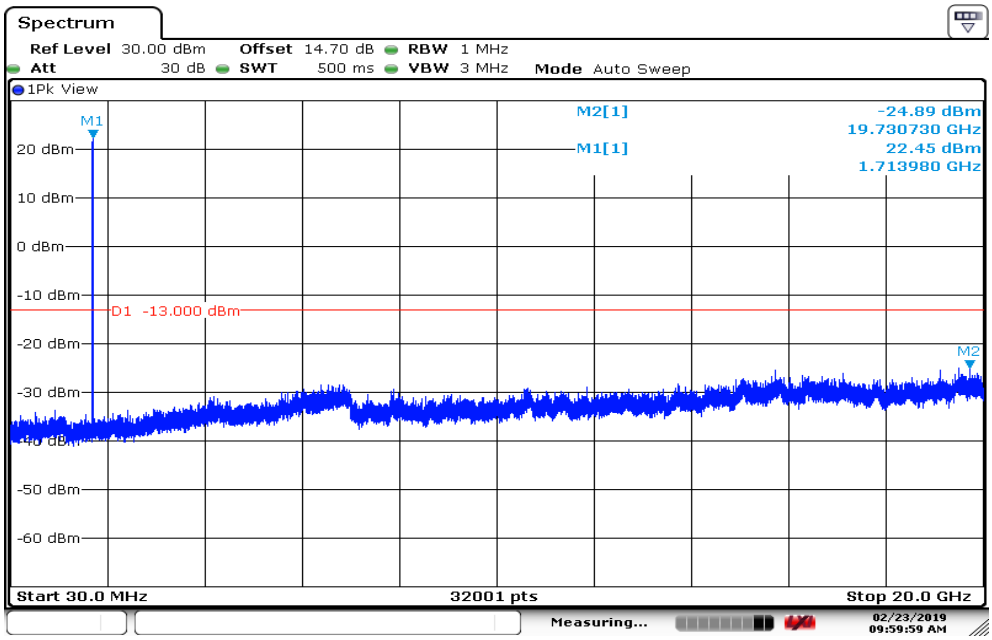
CH High



Date: 23.FEB.2019 09:57:21

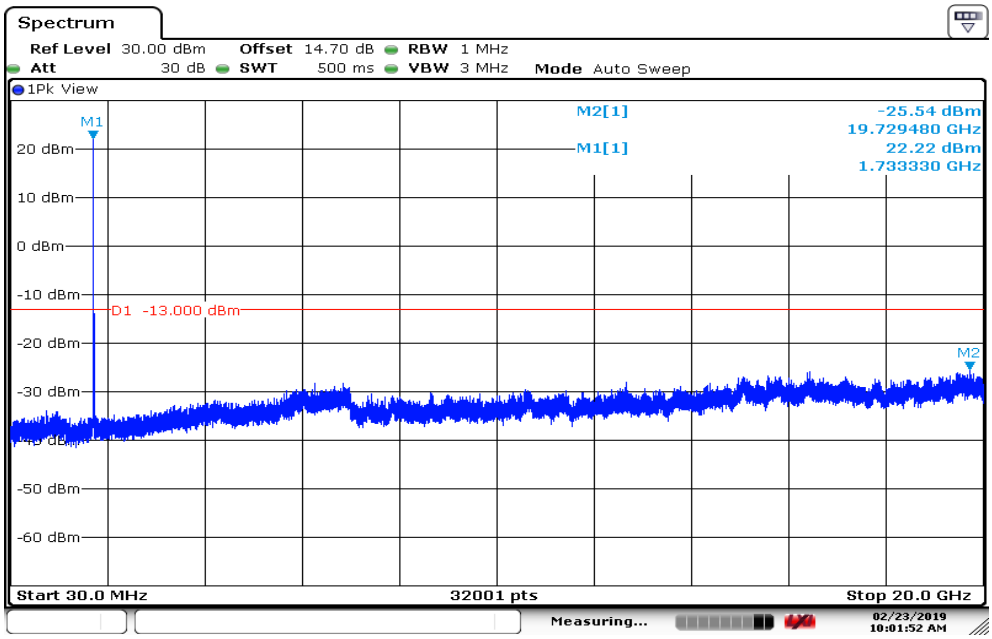
CHANNEL BANDWIDTH:5MHz /16QAM

CH Low



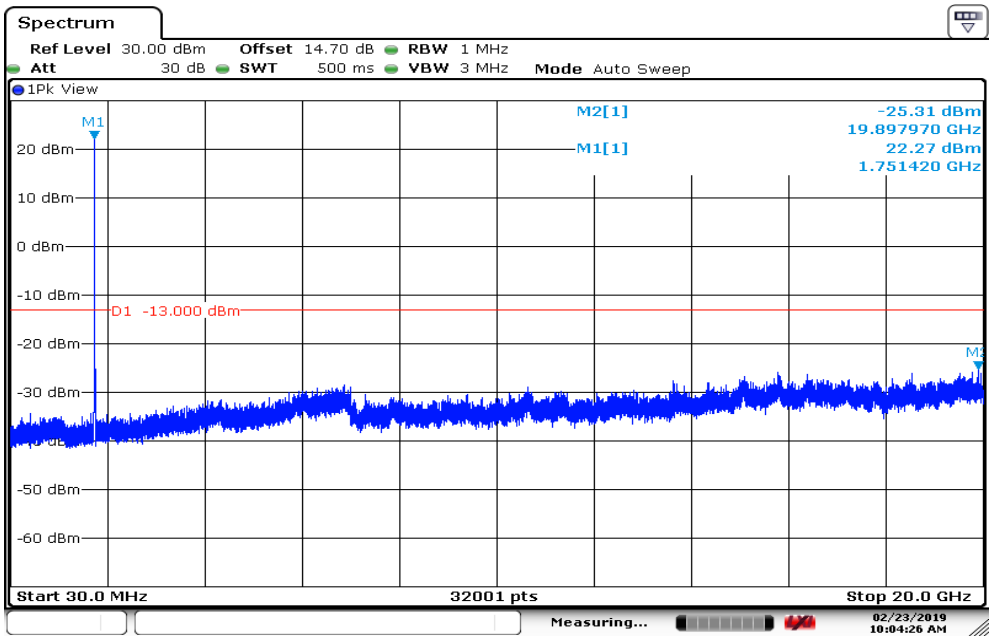
Date: 23.FEB.2019 10:00:00

CH Mid



Date: 23.FEB.2019 10:01:52

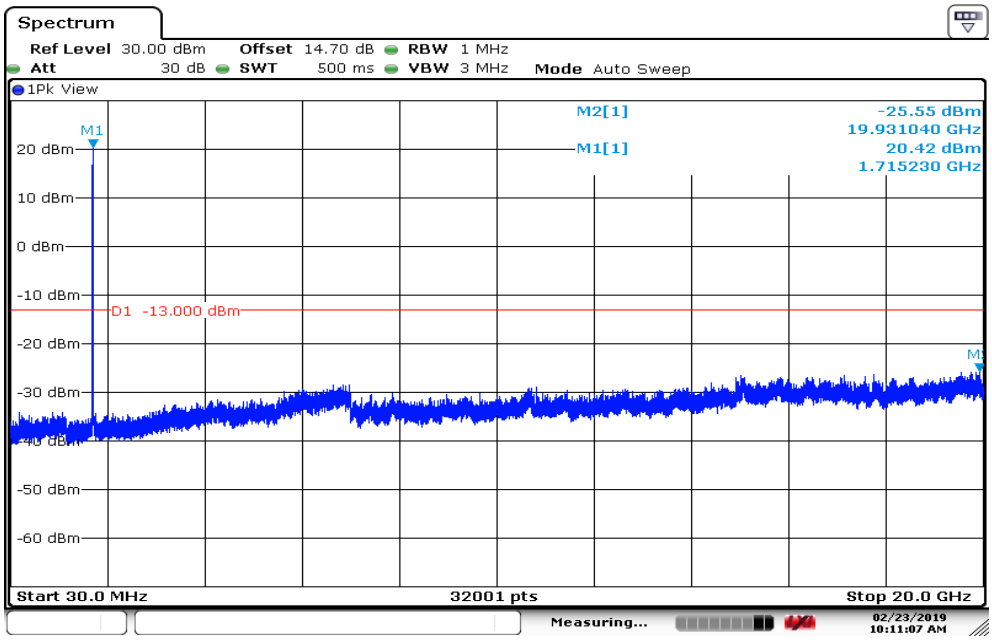
CH High



Date: 23.FEB.2019 10:04:26

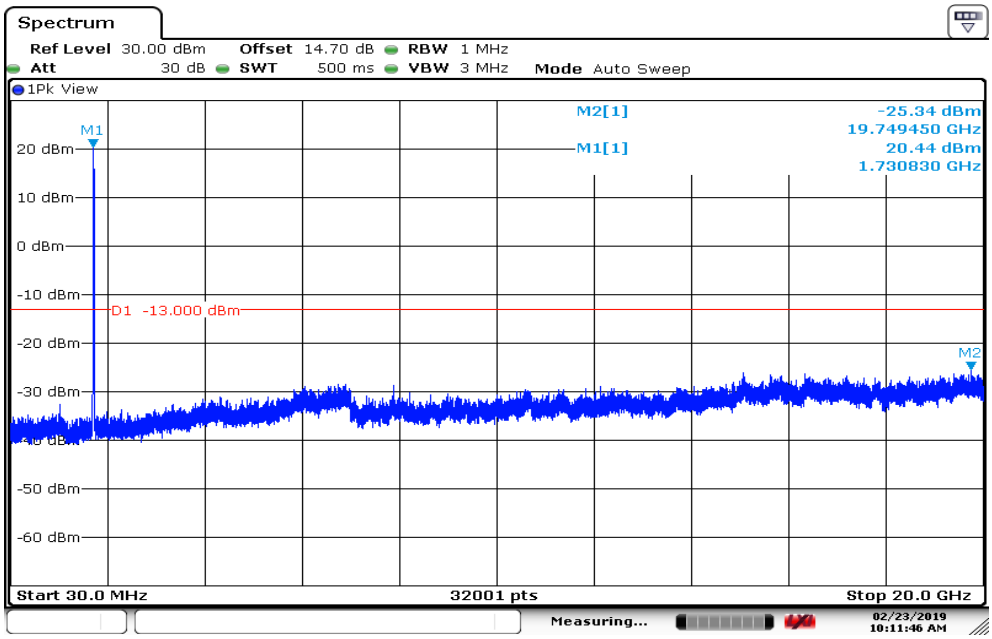
CHANNEL BANDWIDTH:10MHz /16QAM

CH Low



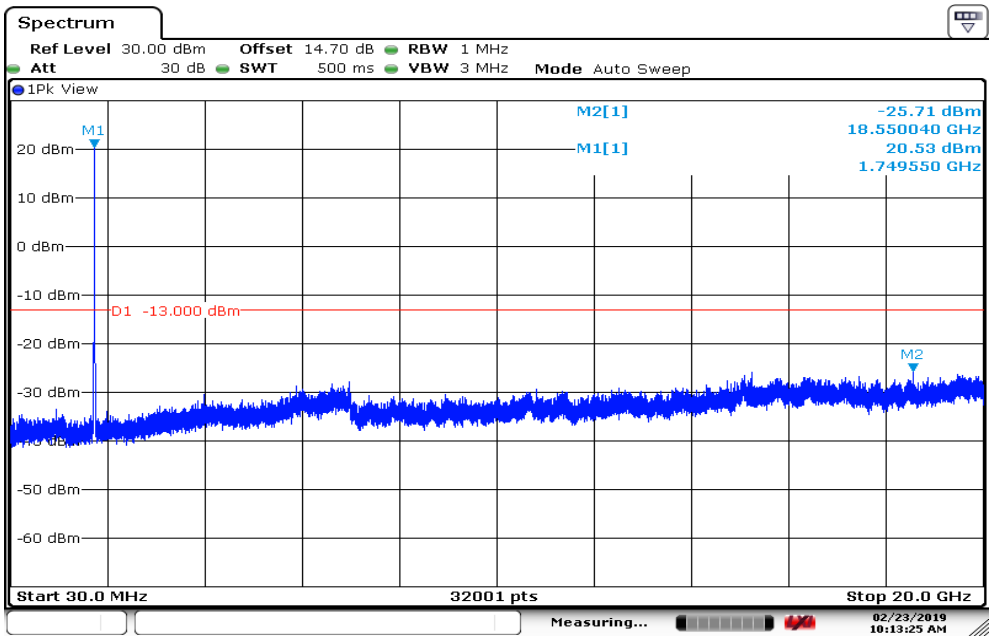
Date: 23.FEB.2019 10:11:08

CH Mid



Date: 23.FEB.2019 10:11:47

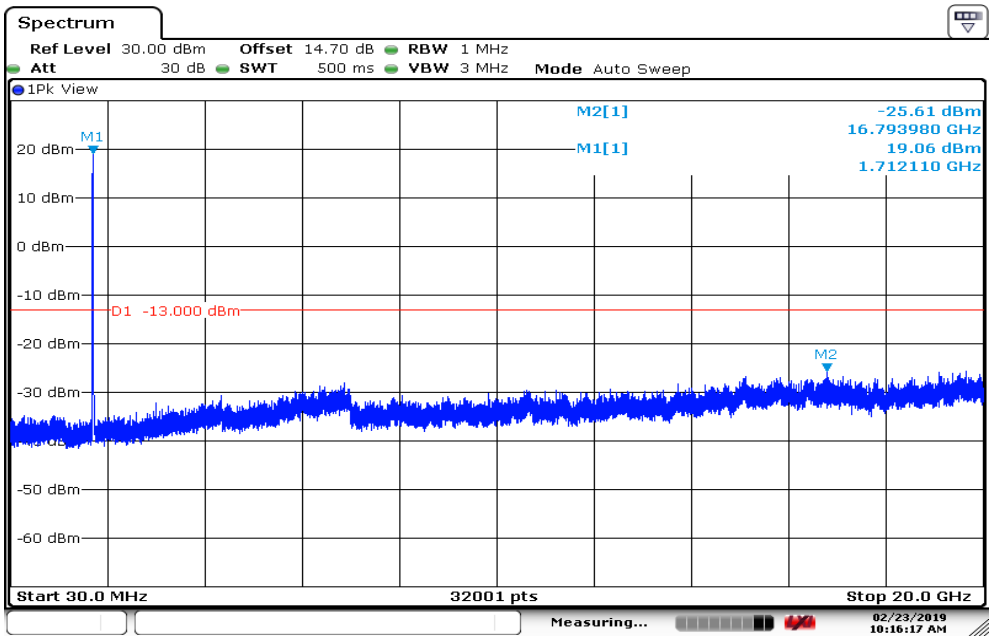
CH High



Date: 23.FEB.2019 10:13:26

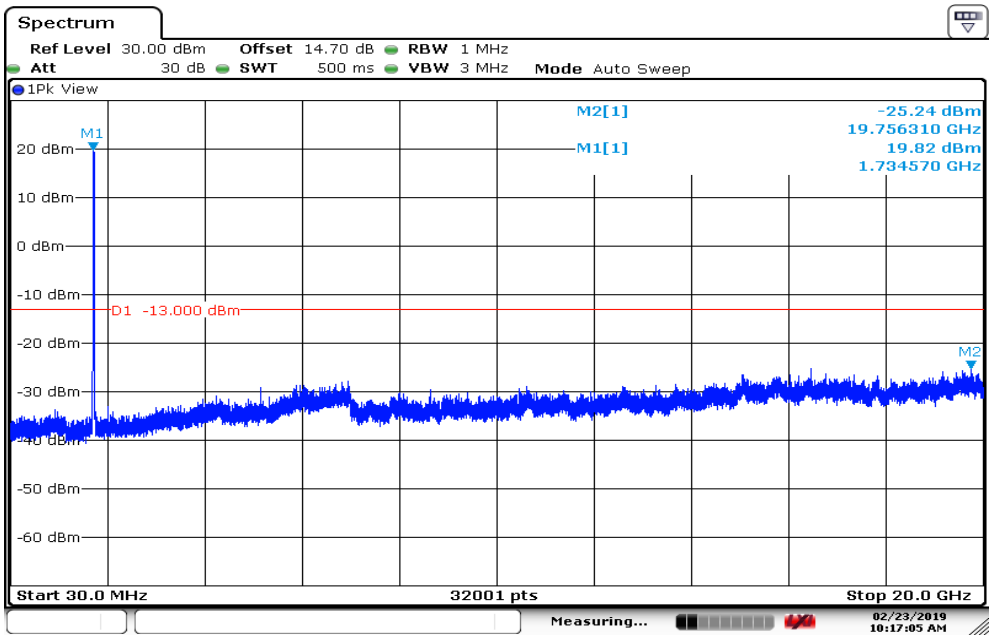
CHANNEL BANDWIDTH:15MHz /16QAM

CH Low



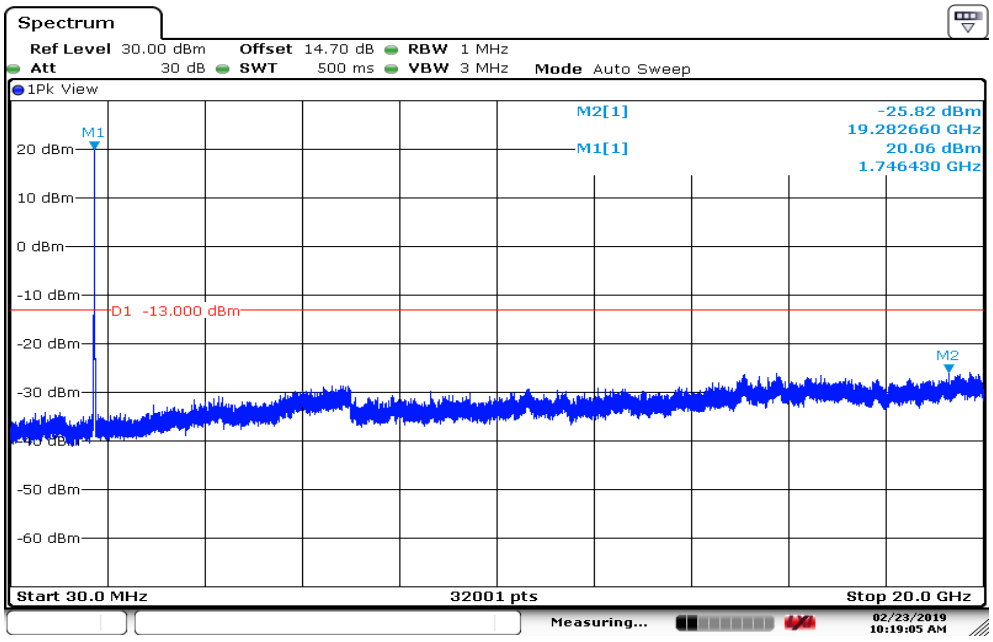
Date: 23.FEB.2019 10:16:17

CH Mid



Date: 23.FEB.2019 10:17:05

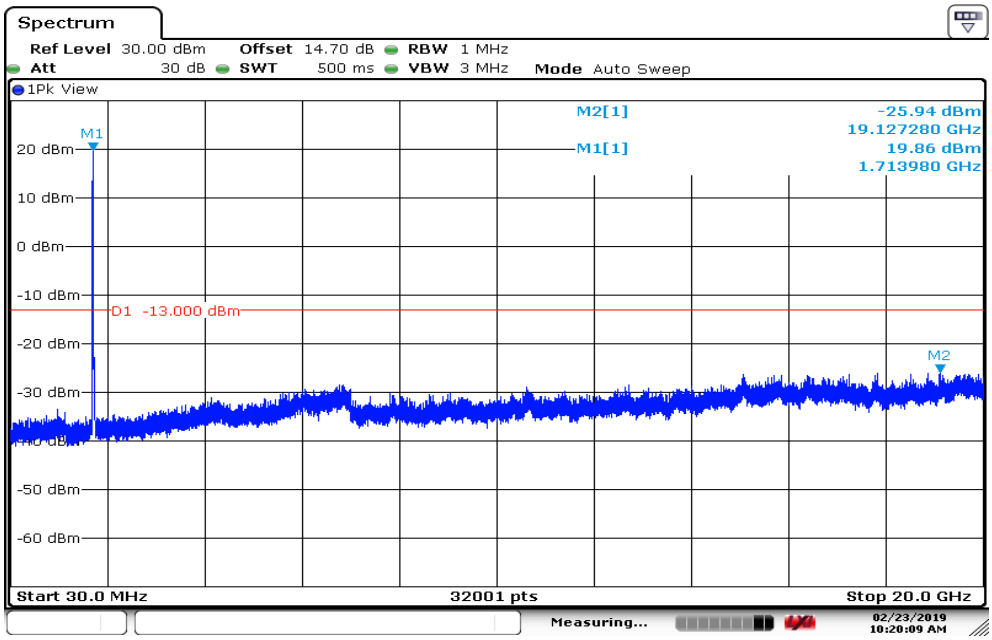
CH High



Date: 23.FEB.2019 10:19:05

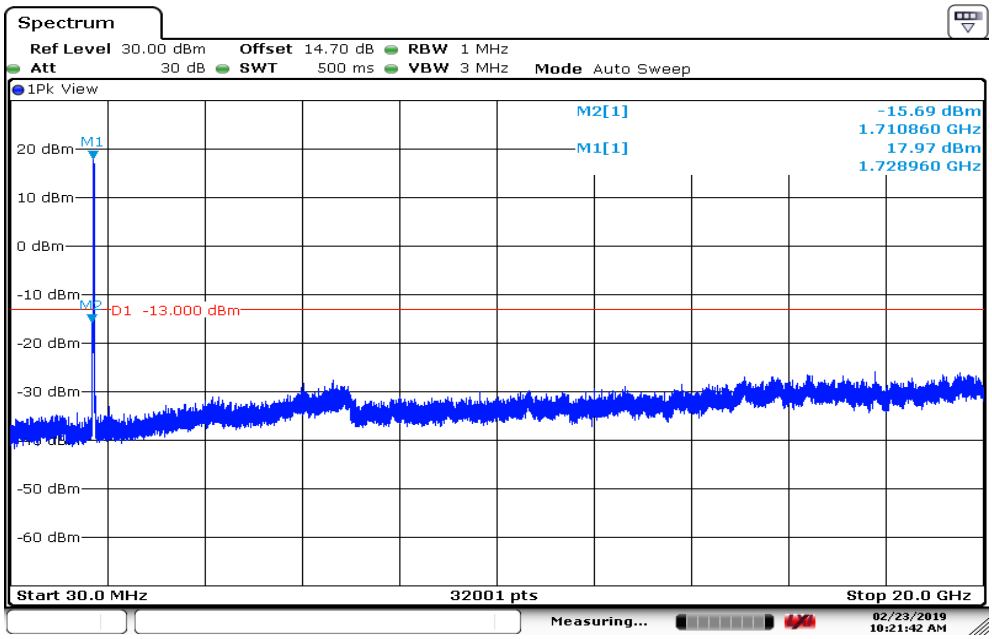
CHANNEL BANDWIDTH:20MHz /16QAM

CH Low



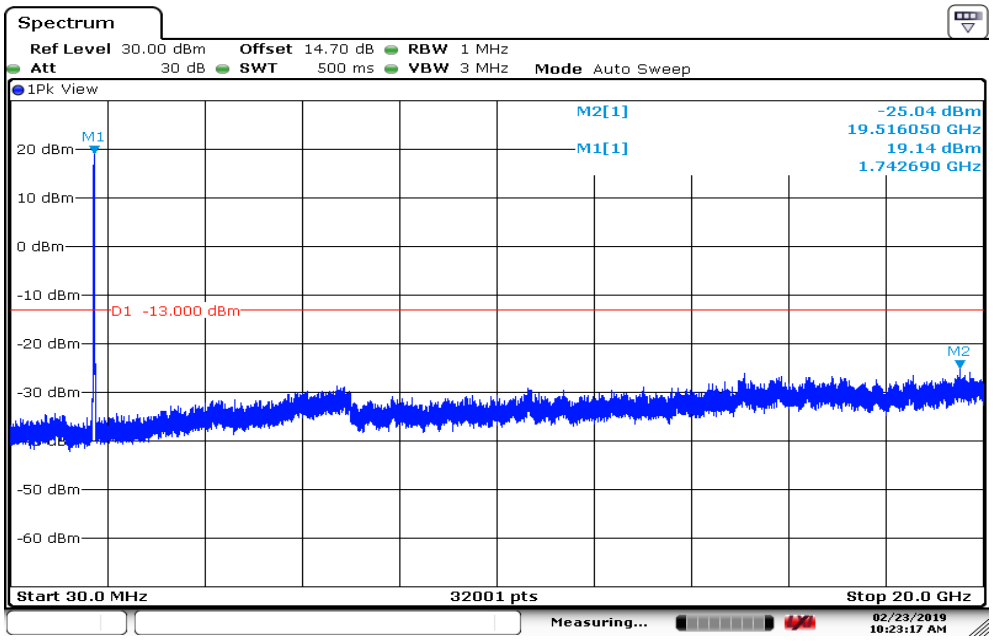
Date: 23.FEB.2019 10:20:09

CH Mid



Date: 23.FEB.2019 10:21:42

CH High



Date: 23.FEB.2019 10:23:18

8.8 RADIATED EMISSION MEASUREMENT

LIMITS

FCC §27.53(g), Band 12
For operations in the 600 MHz band and the 698-746MHz band, the power of any emission outside a licensee's frequency band(s) of operation shall be attenuated below the transmitter power (P) within the licensed band(s) of operation, measured in watts, by at least 43 + 10 log (P) dB. Compliance with this provision is based on the use of measurement instrumentation employing a resolution bandwidth of 100 kilohertz or greater. However, in the 100 kilohertz bands immediately outside and adjacent to a licensee's frequency block, a resolution bandwidth of at least 30 kHz may be employed.

FCC §27.53(h), Band 4
General protection levels. Except as otherwise specified below, for operations in the 1710-1755MHz bands, the power of any emission outside a licensee's frequency block shall be attenuated below the transmitter power (P) in watts by at least 43 + 10 log10 (P) dB.

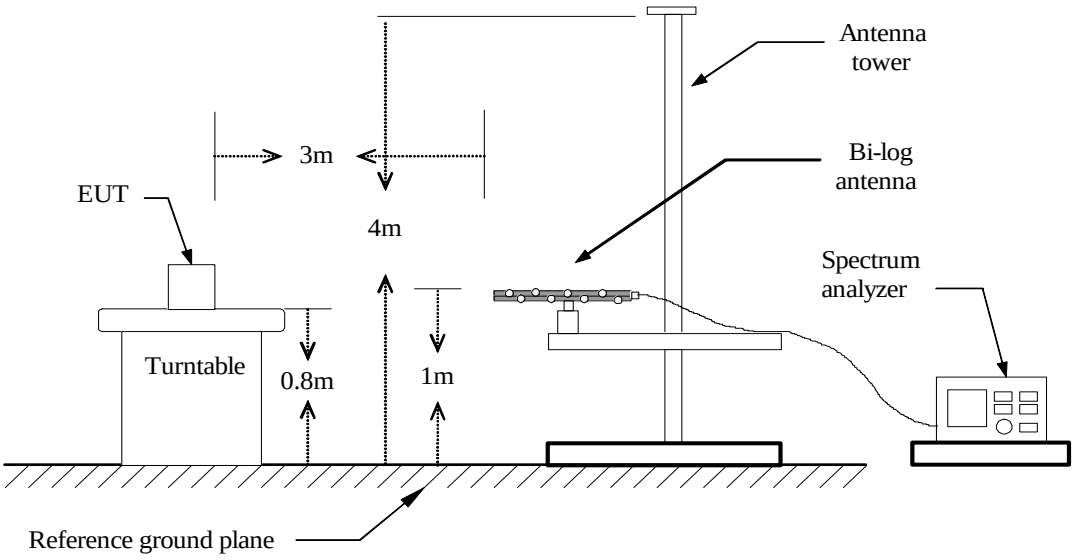
According to RSS-130, Band 12,
The power of any unwanted emissions in any 100 kHz bandwidth on any frequency outside thefrequency range(s) within which the equipment is designed to operate shall be attenuatedbelow the transmitter power, P (dBW), by at least 43 + 10 $\log_{10}$ p (watts), dB. However, in the100 kHz band immediately outside the equipment's operating frequency range, a resolutionbandwidth of 30 kHz may be employed.

According to RSS-139, Band 4,
General protection levels. Except as otherwise specified below, for operations in the In the first 1.0 MHz bands immediately outside and adjacent to the equipment's smallest operating frequency block,2 which can contain the equipment's occupied bandwidth, the emission power per any 1% of the emission bandwidth shall be attenuated below the transmitter output power P (in dBW) by at least 43 + 10 log10 p (watts) dB
After the first 1.0 MHz outside the equipment's smallest operating frequency block, which can contain the equipment's occupied bandwidth, the emission power in any 1 MHz bandwidth shall be attenuated below the transmitter output power P (in dBW) by at least 43 + 10 log10 p (watts) dB.

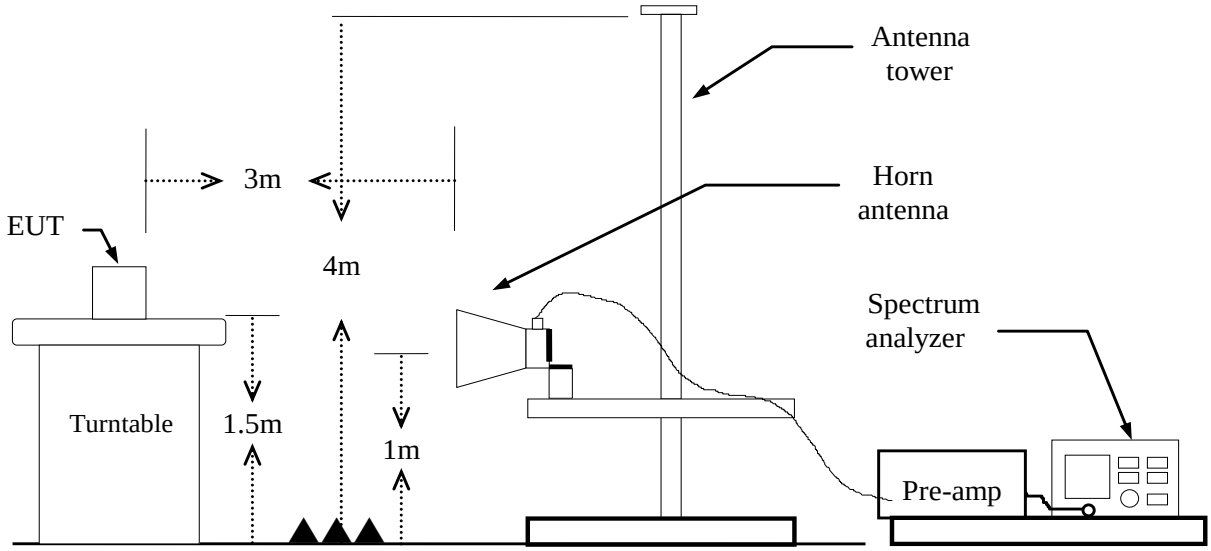
Limit Line: -13dBm

Test Configuration

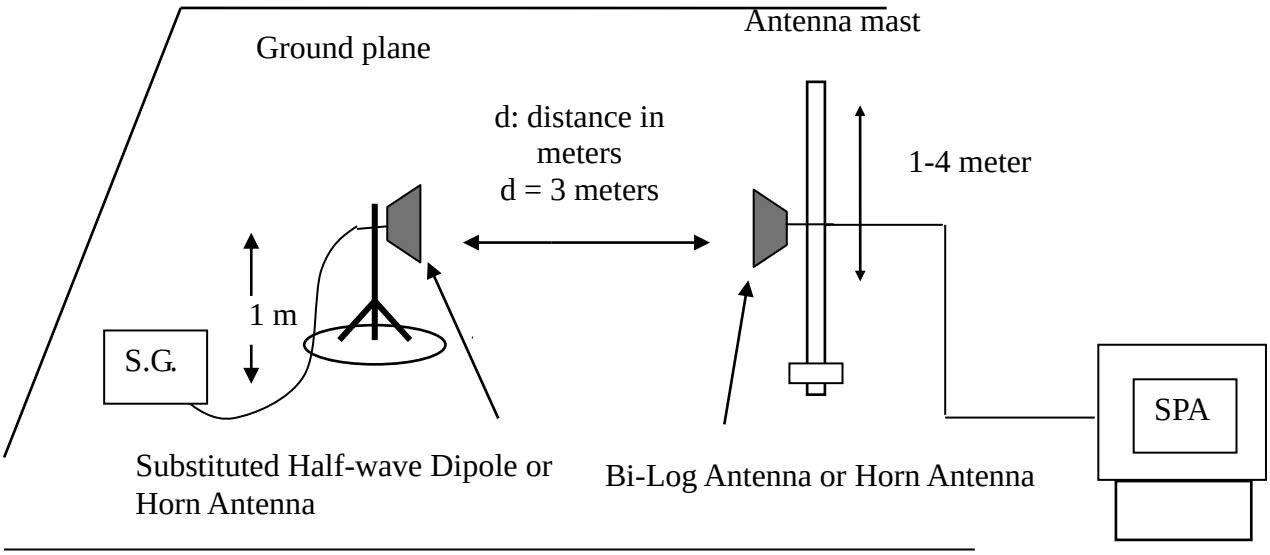
Below 1 GHz



Above 1 GHz



Substituted Method Test Set-up



TEST PROCEDURES

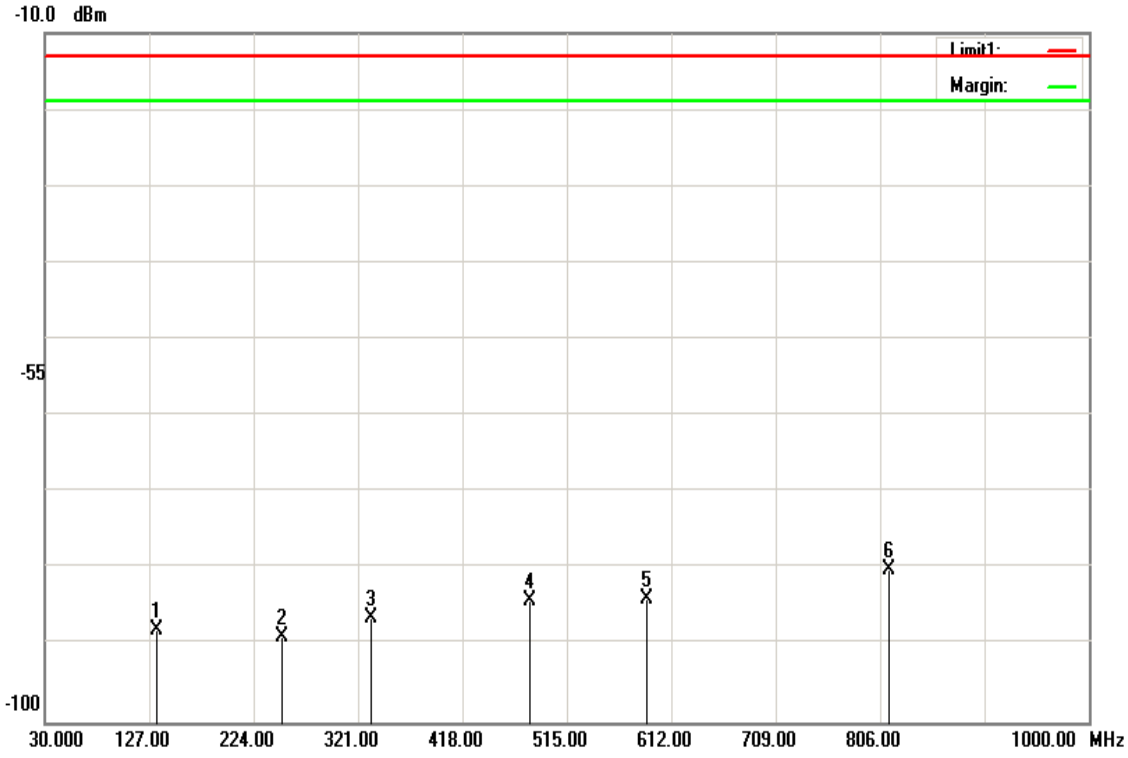
1. According to KDB 971168 D01. section 5.8 and TIA-603-D:2010 section 2.2.12. According to RSS-139 section 6.6 and RSS-130 section 4.6
2. The EUT was placed on a turntable
   (1) Below 1G : 0.8m
   (2) Above 1G : 1.5m
   (3) EUT set 3m from the receiving antenna
   (4) The table was rotated 360 degrees of the highest spurious emission to determine the position.
3. Set the spectrum analyzer , RBW=1MHz, VBW=3MHz.
4. A horn antenna was driven by a signal generator.
5. Tune the output power of signal generator to the same emission level with EUT maximum spurious emission

Test Results

Below 1GHz

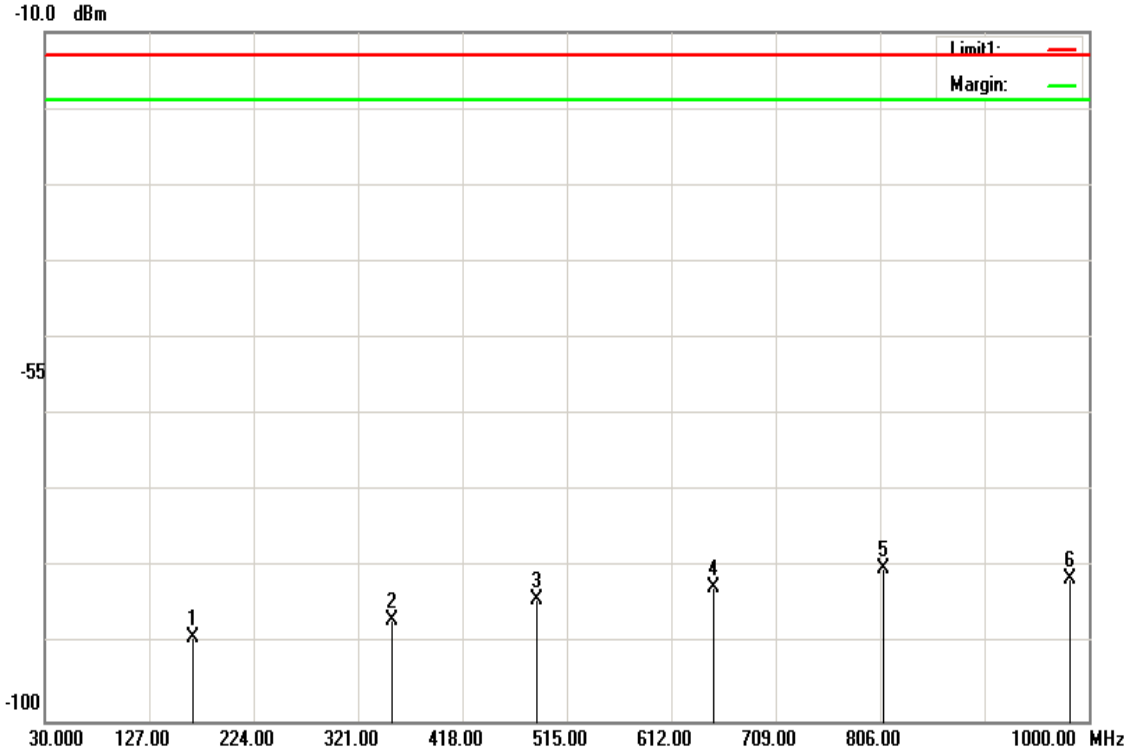
LTE Band 12 / BW: 10MHz / QPSK / RB =1, RB Offset = 0

Operation Mode:	Tx / Mid CH	**Test Date:**	March 12, 2019
Temperature:	22°C	**Tested by:**	Dally Hong
Humidity:	46% RH	**Polarity:**	Ver.



Frequency (MHz)	S.G. (dBm)	Ant.Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
133.7900	-84.58	1.15	-87.88	-13.00	-74.88	V
250.1900	-85.08	1.57	-88.80	-13.00	-75.80	V
333.1250	-82.42	1.82	-86.39	-13.00	-73.39	V
480.0800	-79.7	2.2	-84.05	-13.00	-71.05	V
590.1750	-79.24	2.45	-83.84	-13.00	-70.84	V
814.2450	-75.11	2.9	-80.16	-13.00	-67.16	V

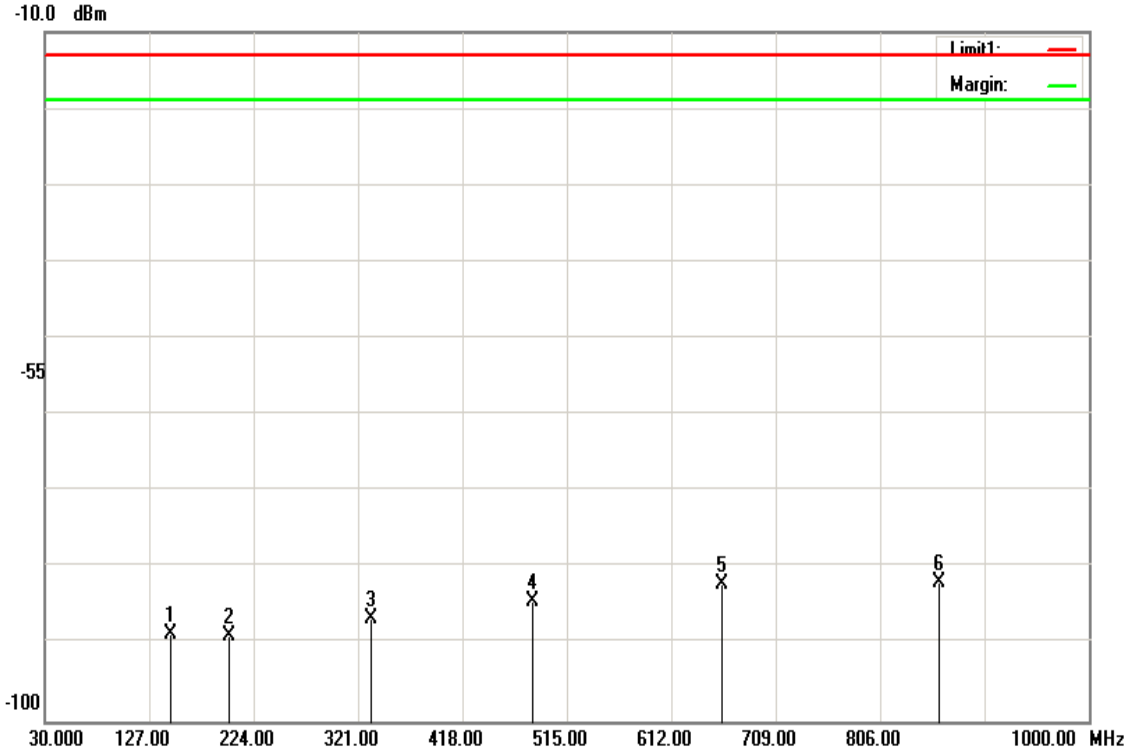
Operation Mode:	Tx / Mid CH	**Test Date:**	March 12, 2019
Temperature:	22°C	**Tested by:**	Dally Hong
Humidity:	46% RH	**Polarity:**	Hor.



Frequency (MHz)	S.G. (dBm)	Ant.Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
168.2250	-85.55	1.28	-88.98	-13.00	-75.98	H
353.0100	-82.86	1.88	-86.89	-13.00	-73.89	H
486.8700	-79.74	2.22	-84.11	-13.00	-71.11	H
650.8000	-77.91	2.57	-82.63	-13.00	-69.63	H
809.3950	-75.1	2.89	-80.14	-13.00	-67.14	H
982.5400	-76.1	3.2	-81.45	-13.00	-68.45	H

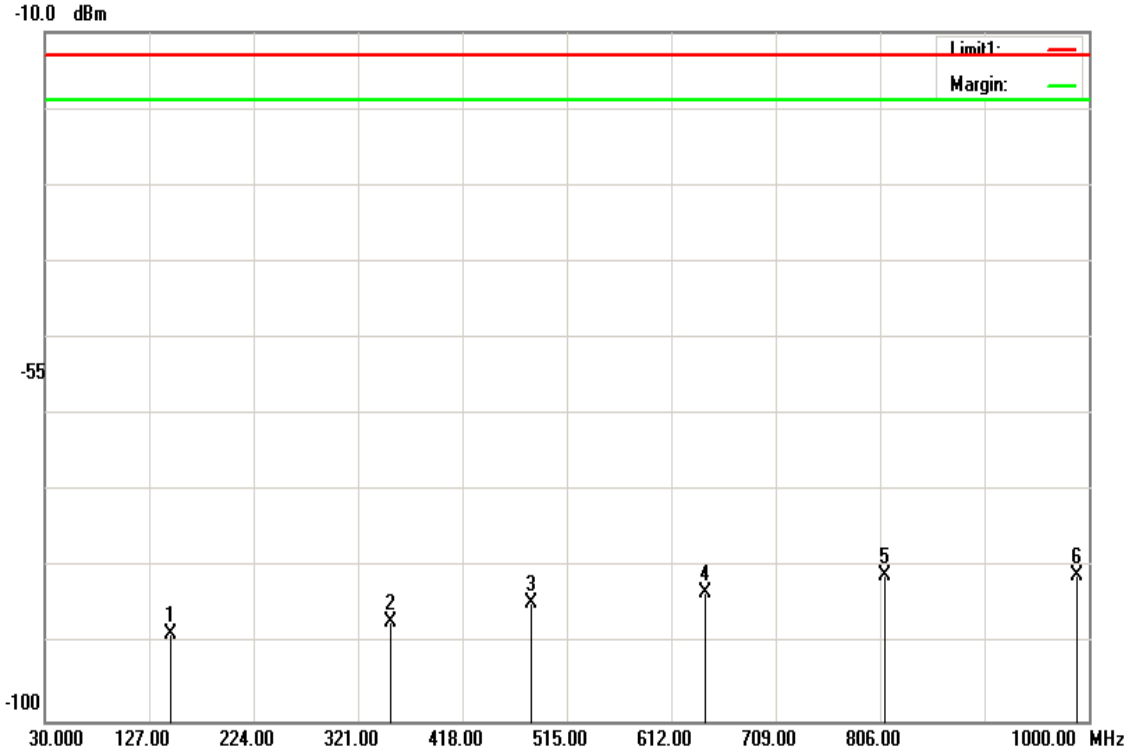
LTE Band 12 / BW: 10MHz / 16QAM / RB =1, RB Offset = 0

Operation Mode:	Tx / Mid CH	**Test Date:**	March 12, 2019
Temperature:	22°C	**Tested by:**	Dally Hong
Humidity:	46% RH	**Polarity:**	Ver.



Frequency (MHz)	S.G. (dBm)	Ant.Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
147.3700	-85.24	1.2	-88.59	-13.00	-75.59	V
200.7200	-85.21	1.4	-88.76	-13.00	-75.76	V
333.1250	-82.66	1.82	-86.63	-13.00	-73.63	V
483.4750	-79.98	2.21	-84.34	-13.00	-71.34	V
659.0450	-77.42	2.59	-82.16	-13.00	-69.16	V
860.3200	-76.65	2.99	-81.79	-13.00	-68.79	V

Operation Mode:	Tx / Mid CH	**Test Date:**	March 12, 2019
Temperature:	22°C	**Tested by:**	Dally Hong
Humidity:	46% RH	**Polarity:**	Hor.

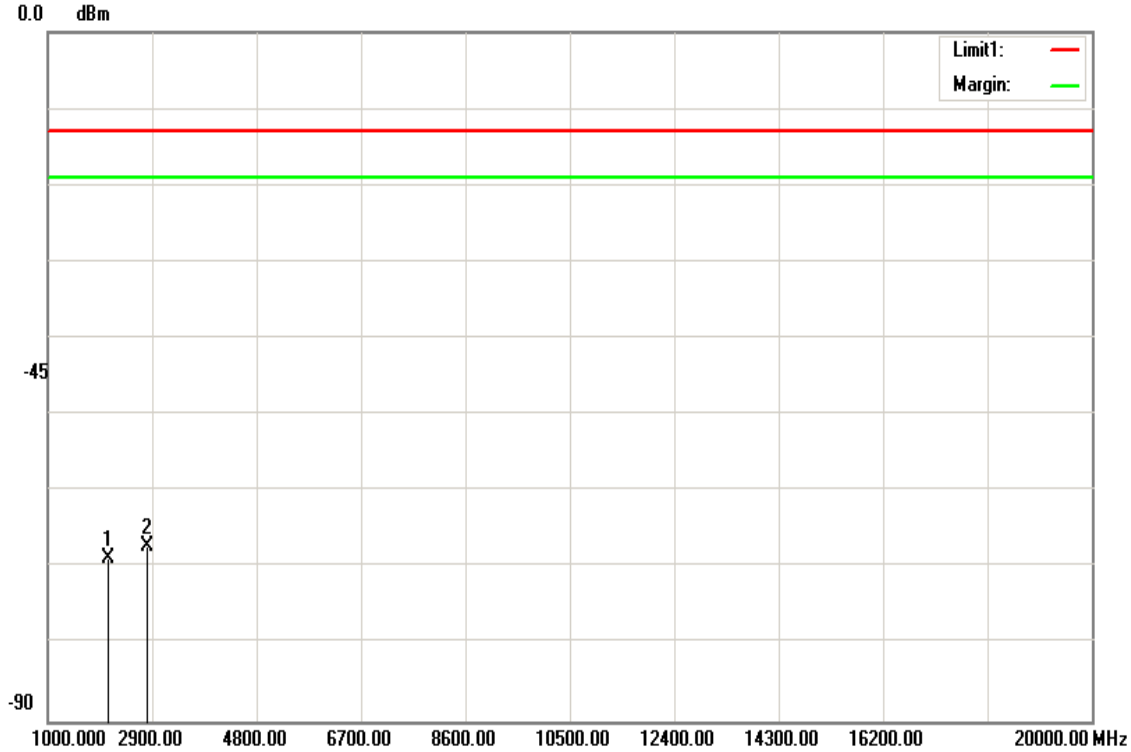


Frequency (MHz)	S.G. (dBm)	Ant.Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
147.8550	-85.31	1.2	-88.66	-13.00	-75.66	H
351.5550	-83.06	1.87	-87.08	-13.00	-74.08	H
482.0200	-80.31	2.21	-84.67	-13.00	-71.67	H
644.4950	-78.49	2.56	-83.20	-13.00	-70.20	H
810.8500	-75.91	2.89	-80.95	-13.00	-67.95	H
989.8150	-75.7	3.21	-81.06	-13.00	-68.06	H

Above 1GHz

LTE Band 12 / BW: 10MHz / QPSK RB =1, RB Offset = 0

Operation Mode:	Tx / Low CH	**Test Date:**	March 13, 2019
Temperature:	22°C	**Tested by:**	Dally Hong
Humidity:	46% RH	**Polarity:**	Ver.

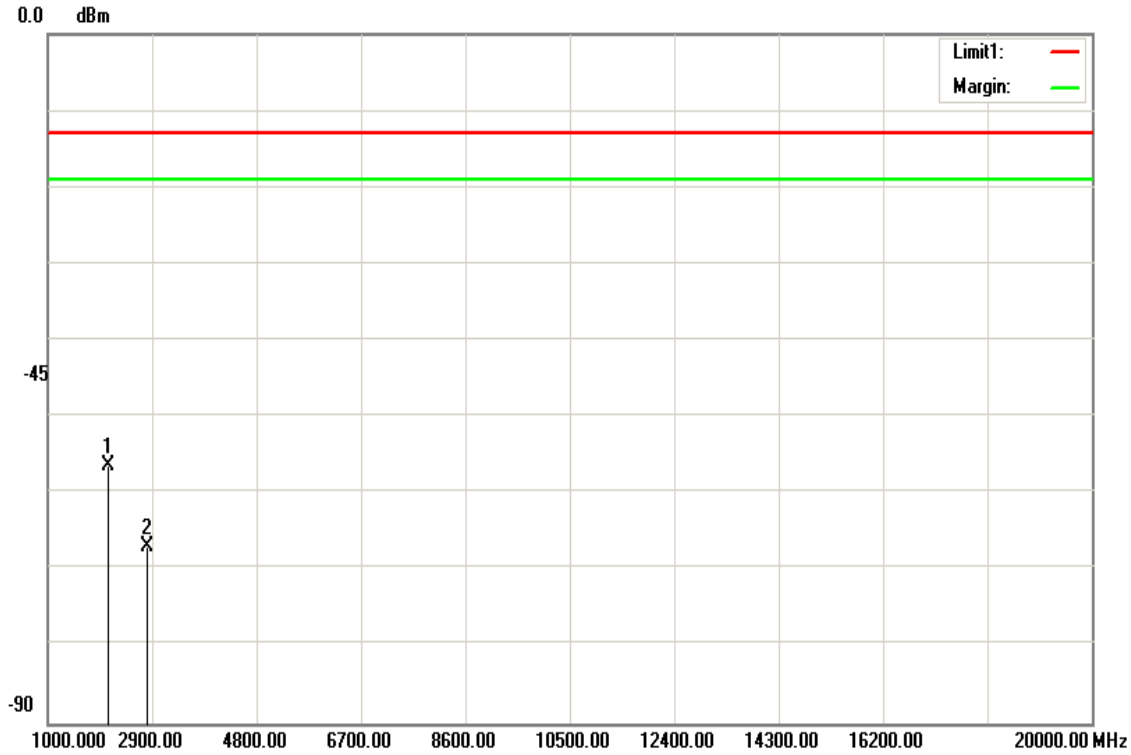


Frequency (MHz)	S.G. (dBm)	Ant.Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
2099.000	-63.86	4.82	-68.68	-13.00	-55.68	V
2799.000	-61.5	5.68	-67.18	-13.00	-54.18	V
N/A						

Remark:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.

Operation Mode:	Tx / Low CH	**Test Date:**	March 13, 2019
Temperature:	22°C	**Tested by:**	Dally Hong
Humidity:	46% RH	**Polarity:**	Hor.

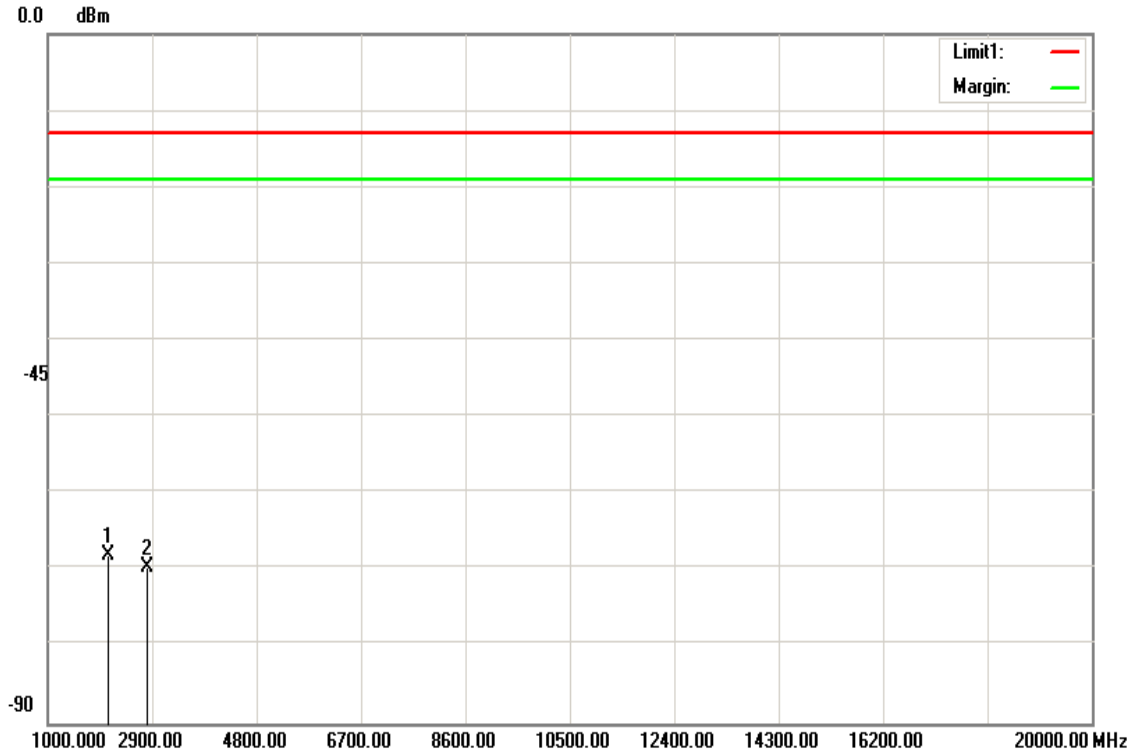


Frequency (MHz)	S.G. (dBm)	Ant.Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
2099.000	-51.44	4.82	-56.26	-13.00	-43.26	H
2799.000	-61.21	5.68	-66.89	-13.00	-53.89	H
N/A						

Remark:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.

Operation Mode:	Tx / Mid CH	**Test Date:**	March 13, 2019
Temperature:	22°C	**Tested by:**	Dally Hong
Humidity:	46% RH	**Polarity:**	Ver.

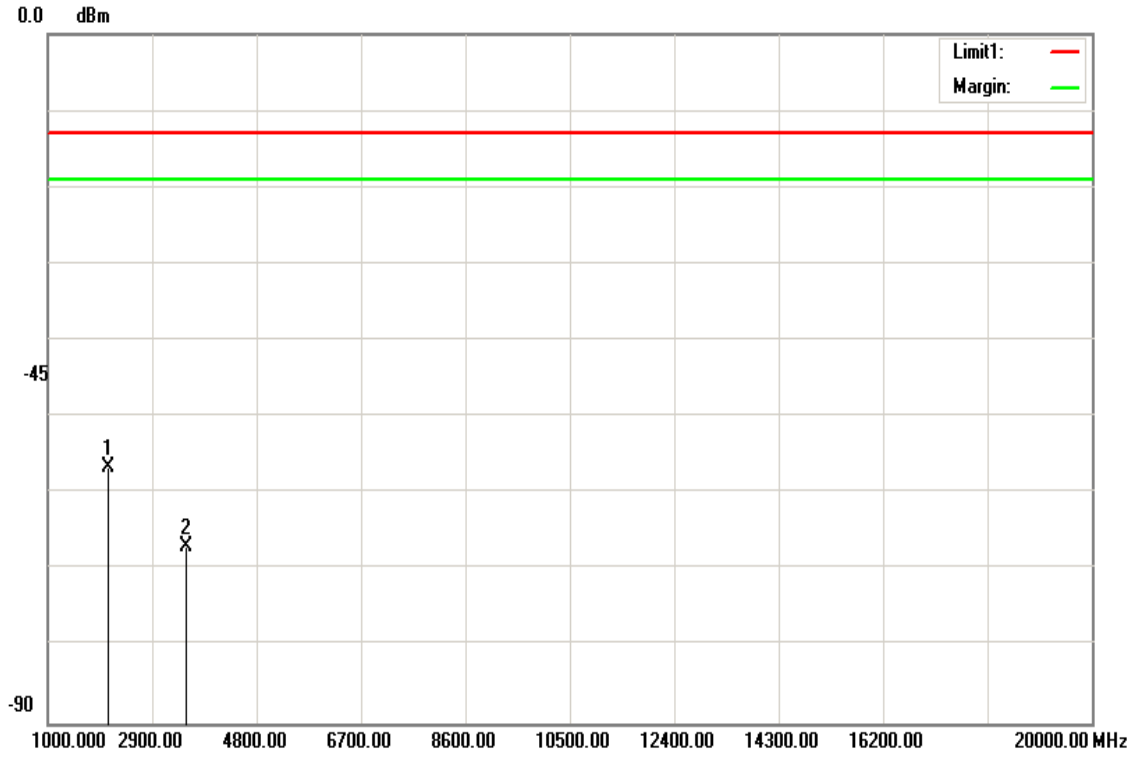


Frequency (MHz)	S.G. (dBm)	Ant.Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
2109.500	-63.2	4.83	-68.03	-13.00	-55.03	V
2813.000	-63.93	5.69	-69.62	-13.00	-56.62	V
N/A						

Remark:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.

Operation Mode:	Tx / Mid CH	**Test Date:**	March 13, 2019
Temperature:	22°C	**Tested by:**	Dally Hong
Humidity:	46% RH	**Polarity:**	Hor.

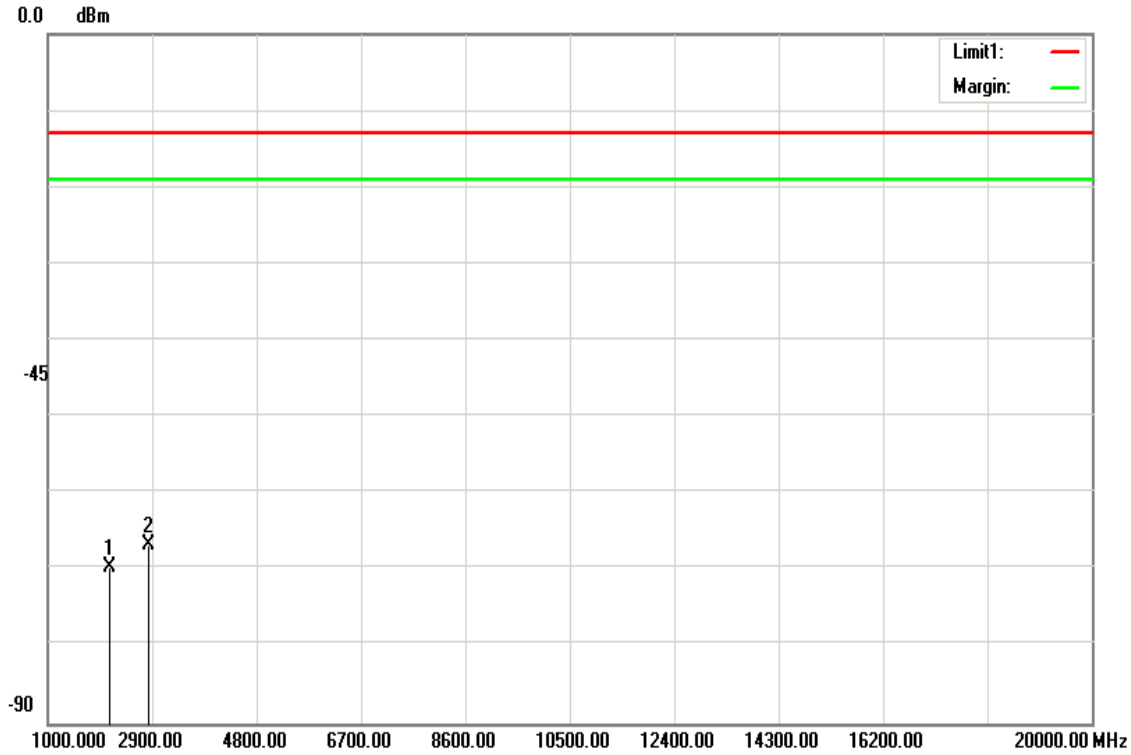


Frequency (MHz)	S.G. (dBm)	Ant.Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
2109.500	-51.86	4.83	-56.69	-13.00	-43.69	H
3516.500	-60.53	6.45	-66.98	-13.00	-53.98	H
N/A						

Remark:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.

Operation Mode:	Tx / High CH	**Test Date:**	March 13, 2019
Temperature:	22°C	**Tested by:**	Dally Hong
Humidity:	46% RH	**Polarity:**	Ver.

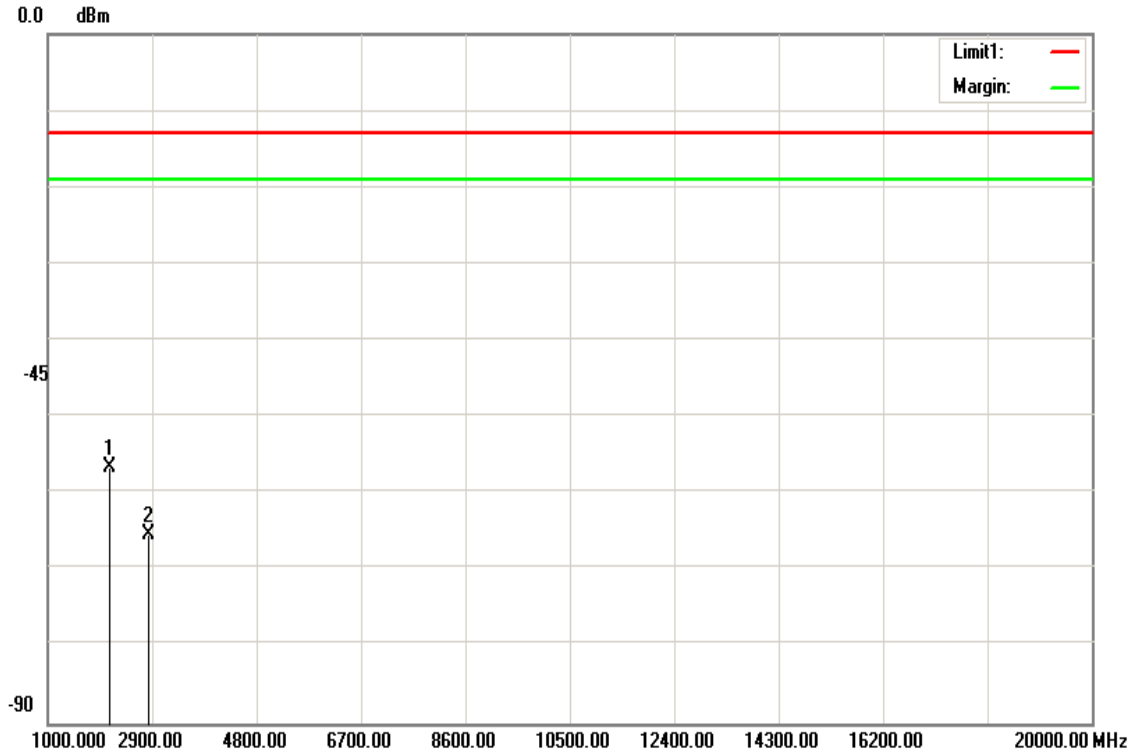


Frequency (MHz)	S.G. (dBm)	Ant.Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
2120.000	-64.8	4.84	-69.64	-13.00	-56.64	V
2827.000	-60.99	5.71	-66.70	-13.00	-53.70	V
N/A						

Remark:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.

Operation Mode:	Tx / High CH	**Test Date:**	March 13, 2019
Temperature:	22°C	**Tested by:**	Dally Hong
Humidity:	46% RH	**Polarity:**	Hor.



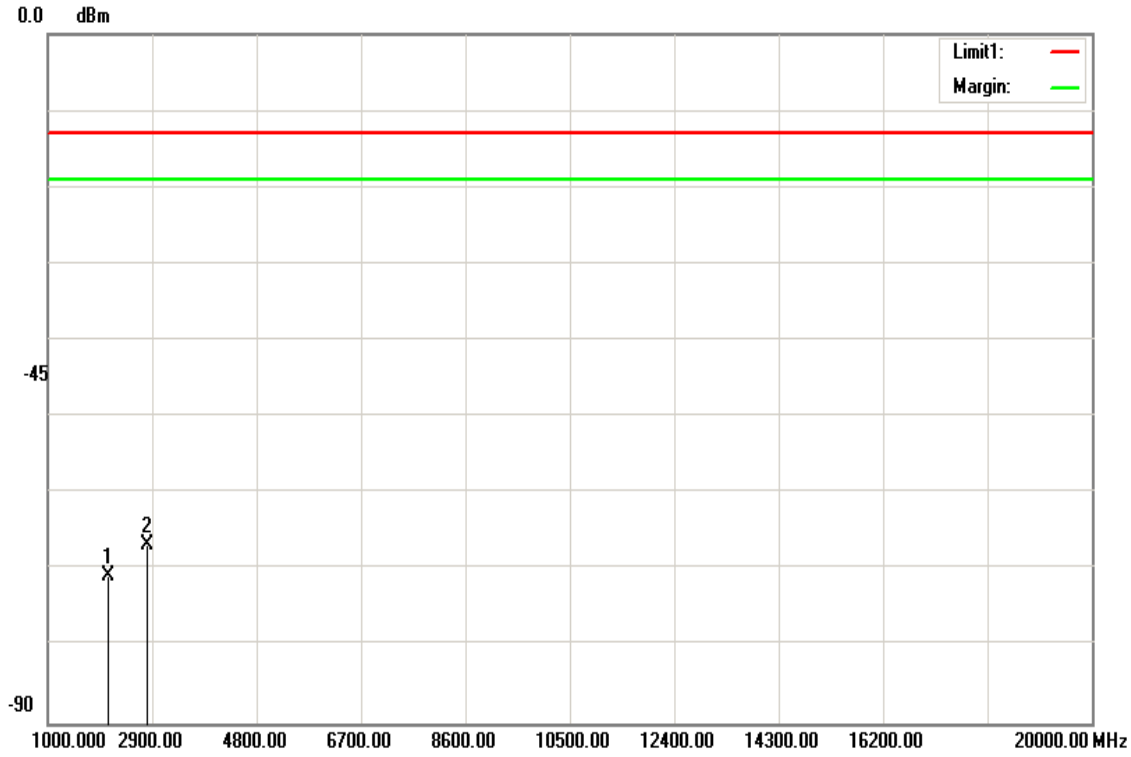
Frequency (MHz)	S.G. (dBm)	Ant.Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
2120.000	-51.73	4.84	-56.57	-13.00	-43.57	H
2827.000	-59.71	5.71	-65.42	-13.00	-52.42	H
N/A						

Remark:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.

LTE Band 12 / BW: 10MHz / 16QAM / RB =1, RB Offset = 0

Operation Mode:	Tx / Low CH	**Test Date:**	March 13, 2019
Temperature:	22°C	**Tested by:**	Dally Hong
Humidity:	46% RH	**Polarity:**	Ver.

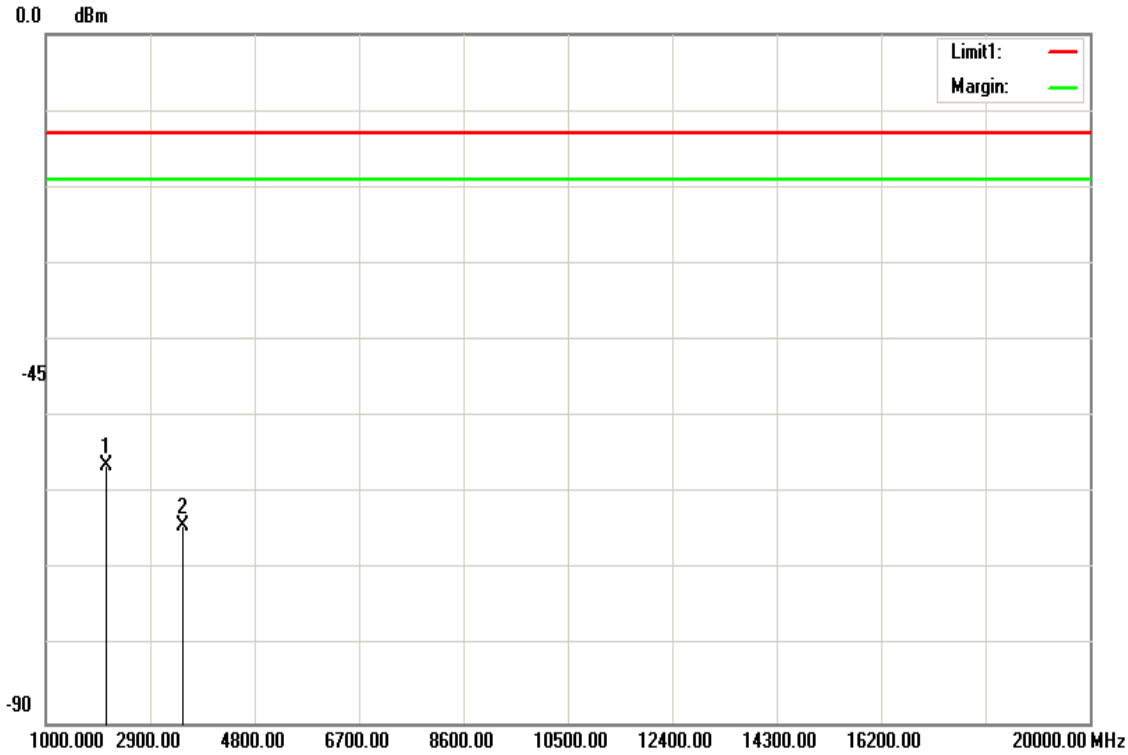


Frequency (MHz)	S.G. (dBm)	Ant.Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
2099.000	-65.89	4.82	-70.71	-13.00	-57.71	V
2799.000	-60.94	5.68	-66.62	-13.00	-53.62	V
N/A						

Remark:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.

Operation Mode:	Tx / Low CH	**Test Date:**	March 13, 2019
Temperature:	22°C	**Tested by:**	Dally Hong
Humidity:	46% RH	**Polarity:**	Hor.

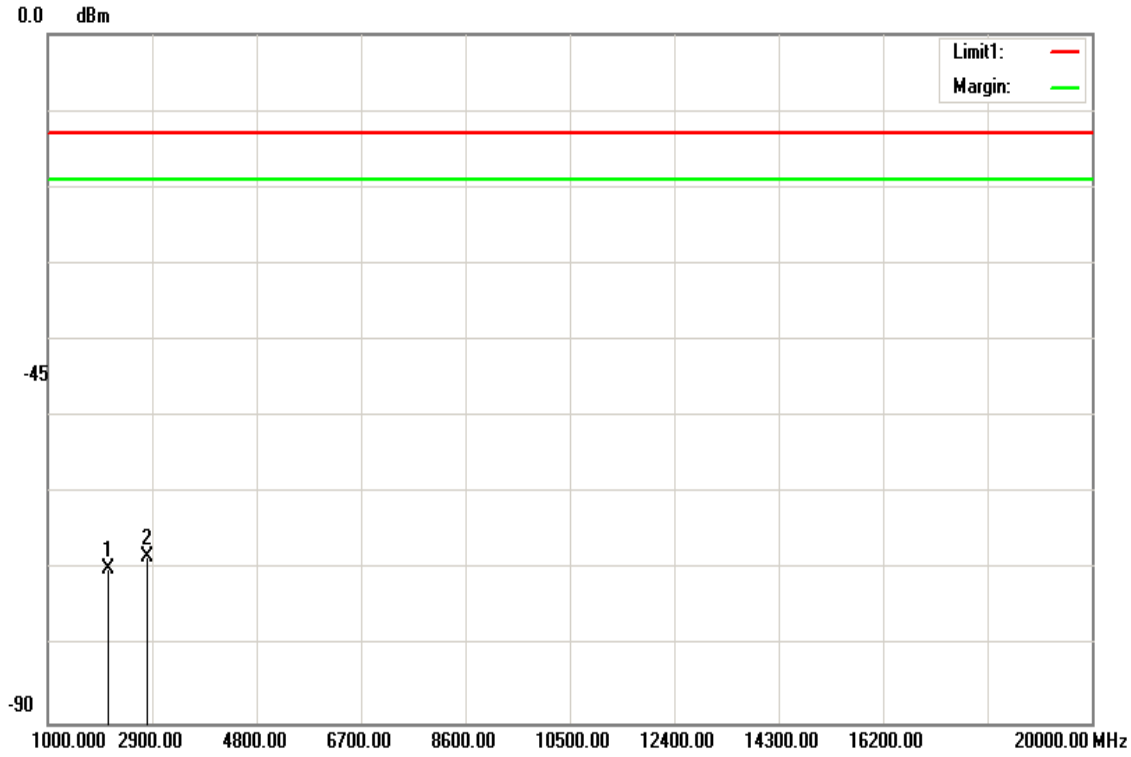


Frequency (MHz)	S.G. (dBm)	Ant.Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
2099.000	-51.43	4.82	-56.25	-13.00	-43.25	H
3499.000	-57.84	6.43	-64.27	-13.00	-51.27	H
N/A						

Remark:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.

Operation Mode:	Tx / Mid CH	**Test Date:**	March 13, 2019
Temperature:	22°C	**Tested by:**	Dally Hong
Humidity:	46% RH	**Polarity:**	Ver.

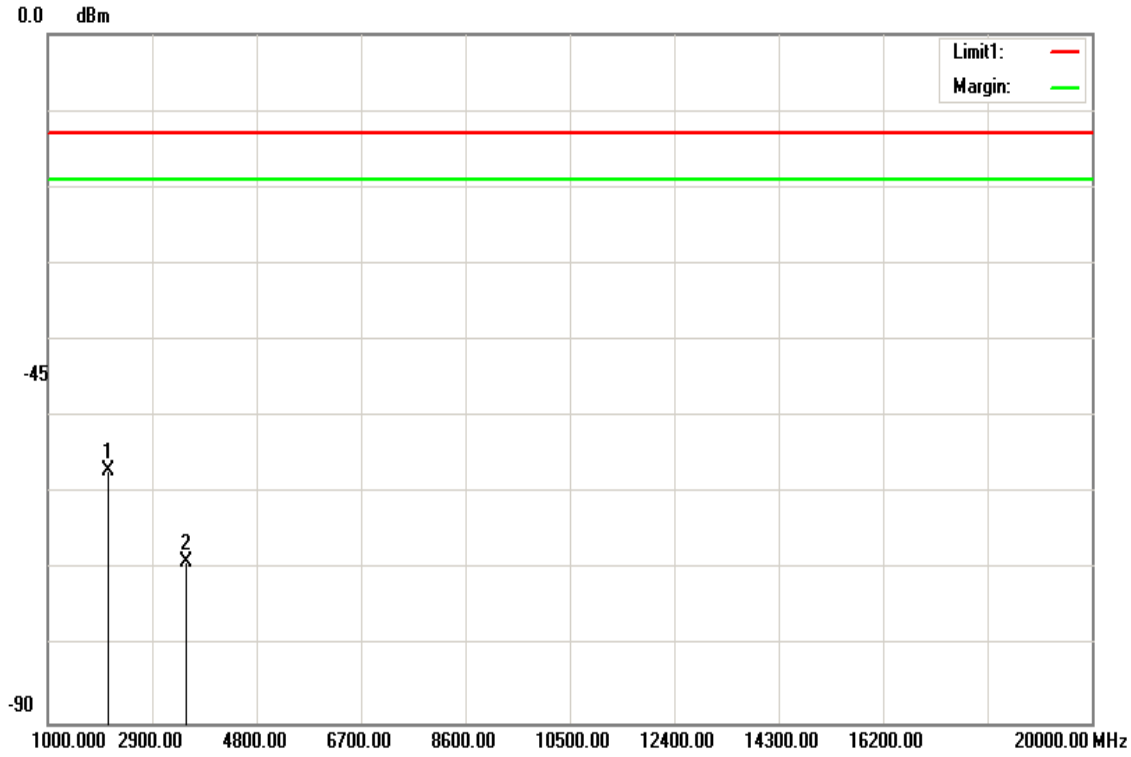


Frequency (MHz)	S.G. (dBm)	Ant.Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
2109.500	-64.95	4.83	-69.78	-13.00	-56.78	V
2813.000	-62.53	5.69	-68.22	-13.00	-55.22	V
N/A						

Remark:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.

Operation Mode:	Tx / Mid CH	**Test Date:**	March 13, 2019
Temperature:	22°C	**Tested by:**	Dally Hong
Humidity:	46% RH	**Polarity:**	Hor.

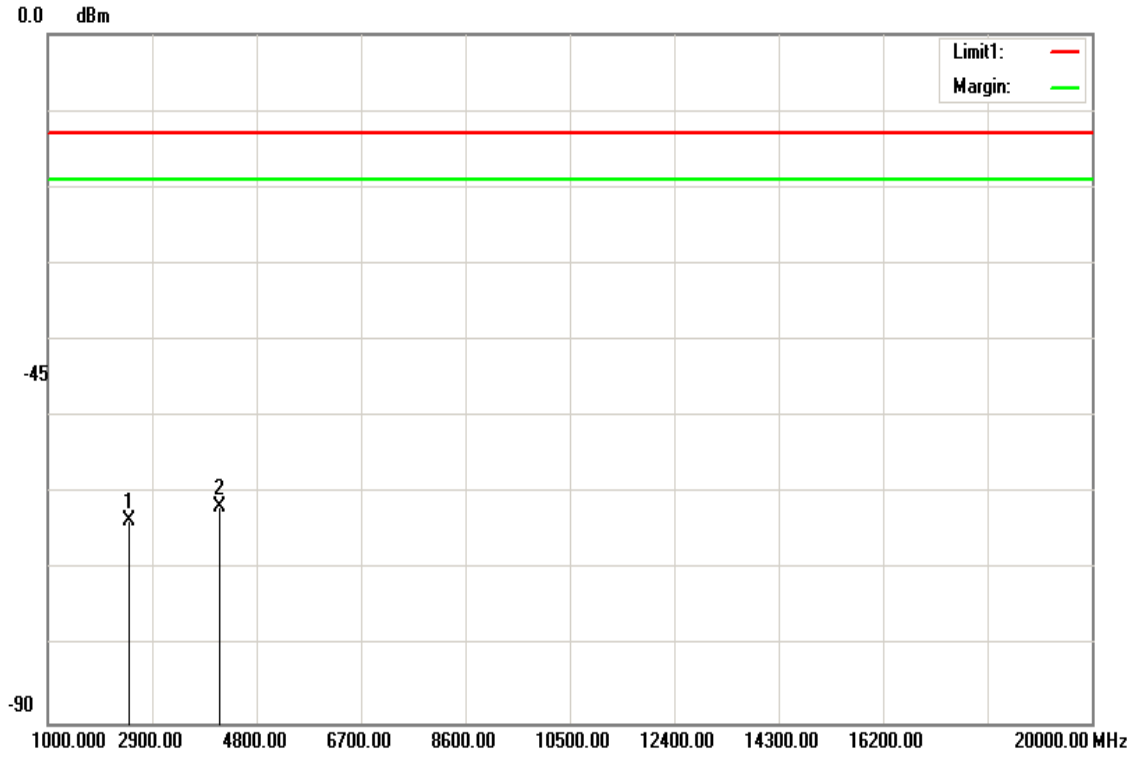


Frequency (MHz)	S.G. (dBm)	Ant.Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
2109.500	-52.21	4.83	-57.04	-13.00	-44.04	H
3516.500	-62.49	6.45	-68.94	-13.00	-55.94	H
N/A						

Remark:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.

Operation Mode:	Tx / High CH	**Test Date:**	March 13, 2019
Temperature:	22°C	**Tested by:**	Dally Hong
Humidity:	46% RH	**Polarity:**	Ver.

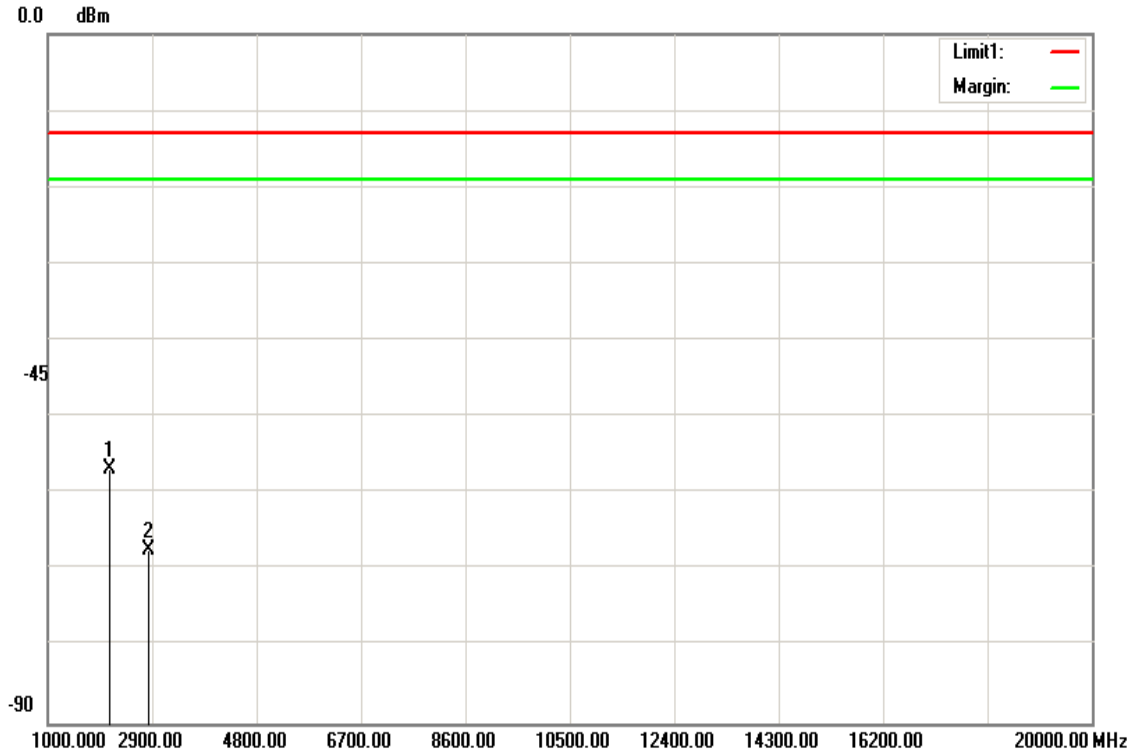


Frequency (MHz)	S.G. (dBm)	Ant.Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
2120.000	-64.86	4.84	-69.70	-13.00	-31.51	V
2827.000	-60.8	5.71	-66.51	-13.00	-29.85	V
N/A						

Remark:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.

Operation Mode:	Tx / High CH	**Test Date:**	March 13, 2019
Temperature:	22°C	**Tested by:**	Dally Hong
Humidity:	46% RH	**Polarity:**	Hor.



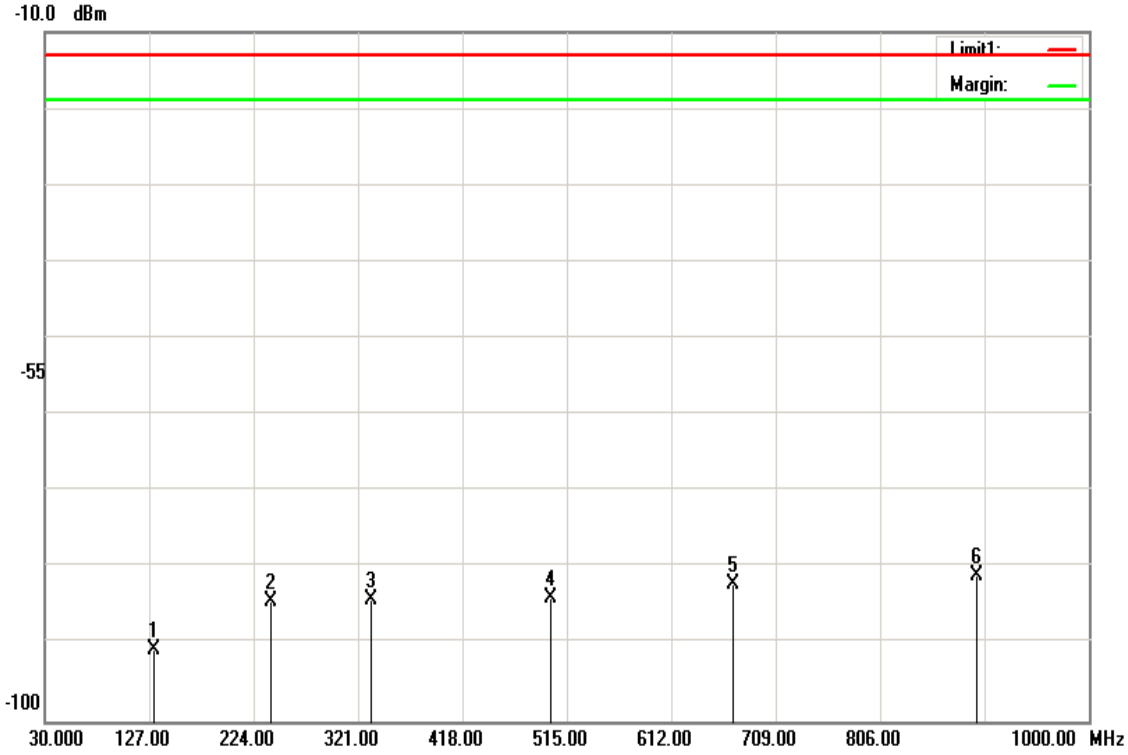
Frequency (MHz)	S.G. (dBm)	Ant.Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
2120.000	-51.95	4.84	-56.79	-13.00	-43.79	H
2827.000	-61.66	5.71	-67.37	-13.00	-54.37	H
N/A						

Remark:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.

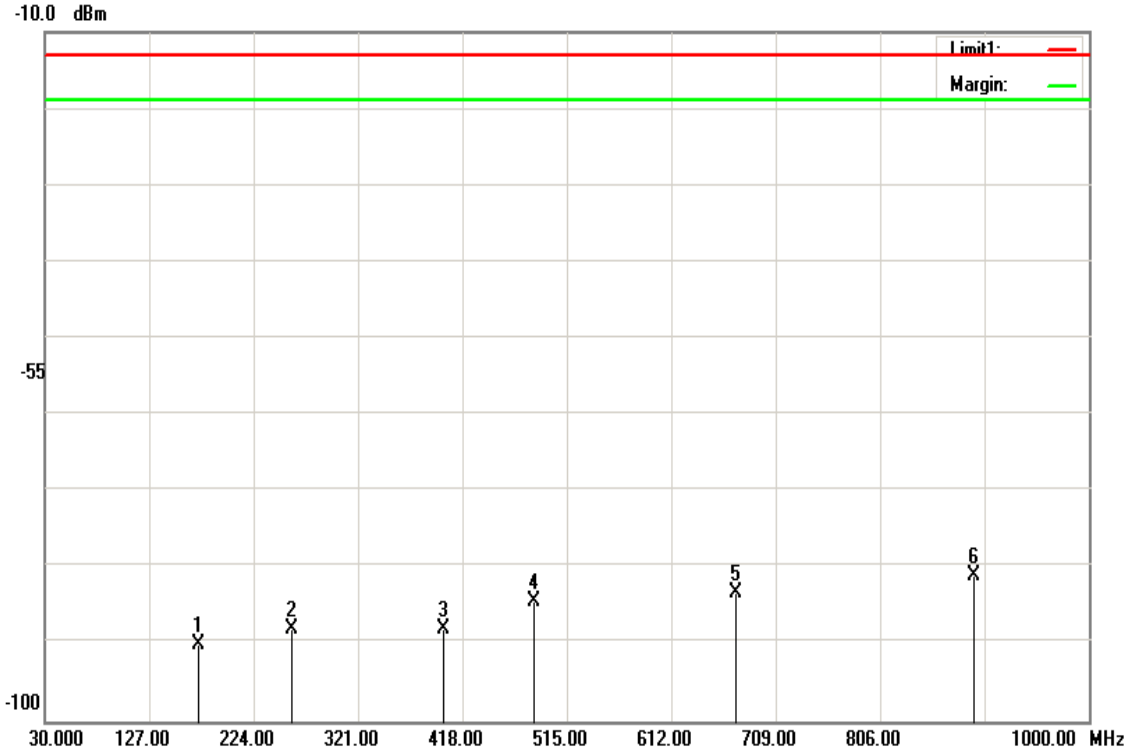
LTE Band 4 / BW: 20MHz / QPSK / RB =1, RB Offset = 0

Operation Mode:	Tx / Mid CH	**Test Date:**	March 11, 2019
Temperature:	22°C	**Tested by:**	Dally Hong
Humidity:	46% RH	**Polarity:**	Ver.



Frequency (MHz)	S.G. (dBm)	Ant.Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
131.8500	-87.48	1.14	-90.77	-13.00	-77.77	V
240.0050	-80.57	1.53	-84.25	-13.00	-71.25	V
333.1250	-80.12	1.82	-84.09	-13.00	-71.09	V
499.9650	-79.61	2.25	-84.01	-13.00	-71.01	V
669.7150	-77.46	2.61	-82.22	-13.00	-69.22	V
896.2100	-75.88	3.05	-81.08	-13.00	-68.08	V

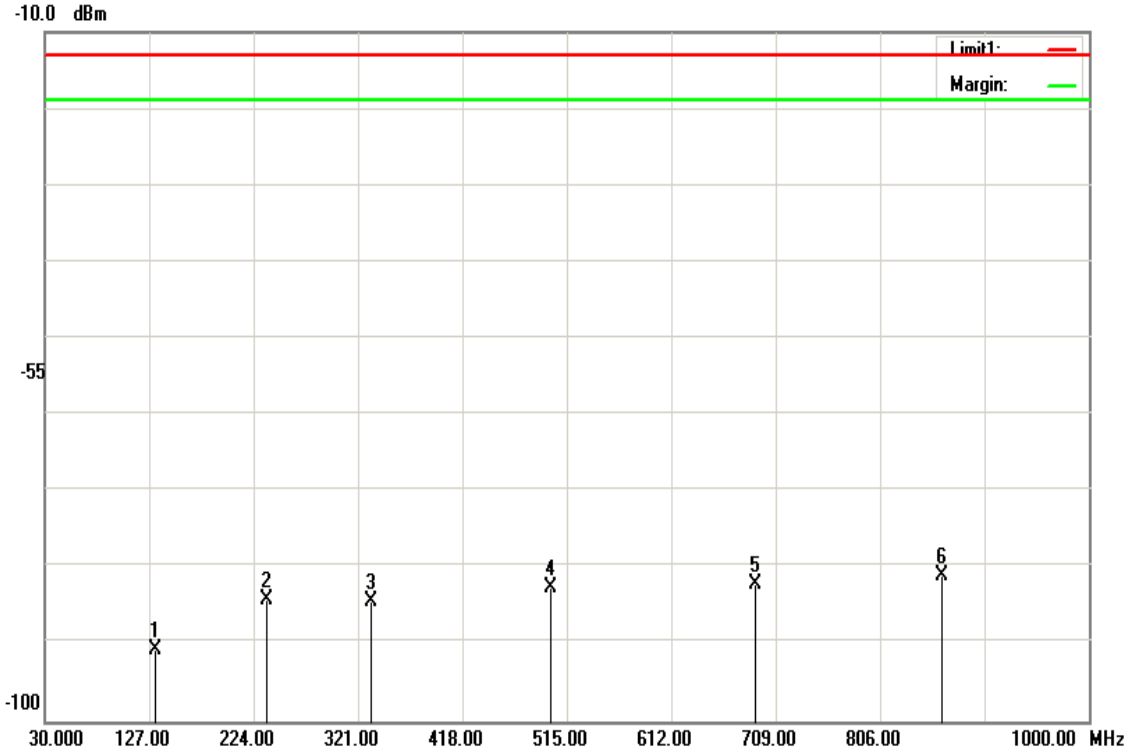
Operation Mode:	Tx / Mid CH	**Test Date:**	March 11, 2019
Temperature:	22°C	**Tested by:**	Dally Hong
Humidity:	46% RH	**Polarity:**	Hor.



Frequency (MHz)	S.G. (dBm)	Ant.Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
172.5900	-86.46	1.3	-89.91	-13.00	-76.91	H
259.4050	-84.21	1.61	-87.97	-13.00	-74.97	H
400.5400	-83.72	2.01	-87.88	-13.00	-74.88	H
485.4150	-80.02	2.21	-84.38	-13.00	-71.38	H
672.6250	-78.41	2.62	-83.18	-13.00	-70.18	H
893.3000	-75.81	3.05	-81.01	-13.00	-68.01	H

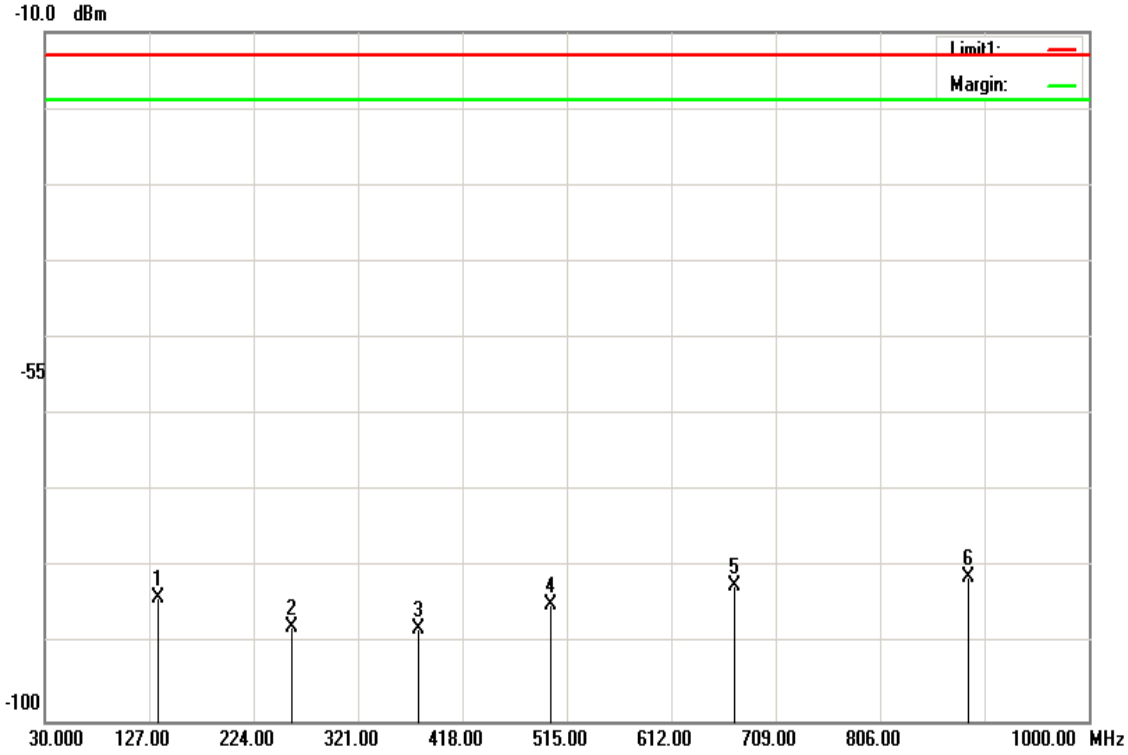
LTE Band 4 / BW: 20MHz / 16QAM / RB =1, RB Offset = 0

Operation Mode:	Tx / Mid CH	**Test Date:**	March 11, 2019
Temperature:	22°C	**Tested by:**	Dally Hong
Humidity:	46% RH	**Polarity:**	Ver.



Frequency (MHz)	S.G. (dBm)	Ant.Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
132.8200	-87.37	1.14	-90.66	-13.00	-77.66	V
237.0950	-80.53	1.52	-84.20	-13.00	-71.20	V
333.1250	-80.45	1.82	-84.42	-13.00	-71.42	V
499.9650	-78.11	2.25	-82.51	-13.00	-69.51	V
689.6000	-77.26	2.66	-82.07	-13.00	-69.07	V
863.2300	-75.76	2.99	-80.90	-13.00	-67.90	V

Operation Mode:	Tx / Mid CH	**Test Date:**	March 11, 2019
Temperature:	22°C	**Tested by:**	Dally Hong
Humidity:	46% RH	**Polarity:**	Hor.

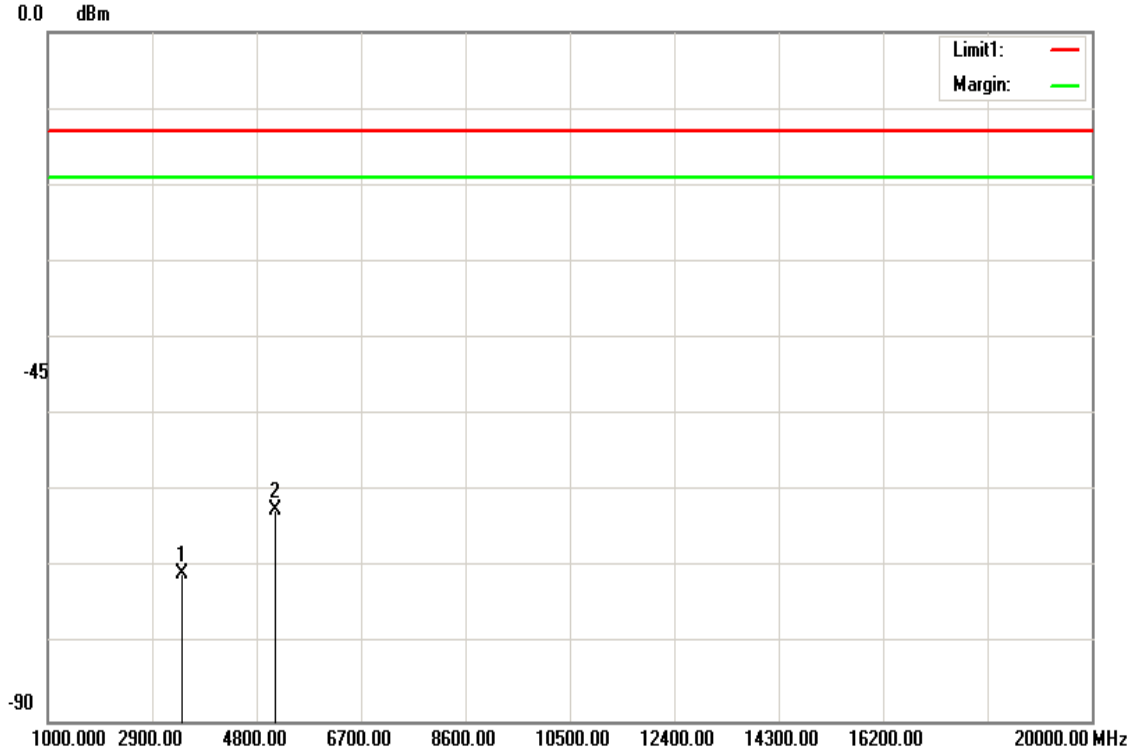


Frequency (MHz)	S.G. (dBm)	Ant.Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
135.2450	-80.69	1.15	-83.99	-13.00	-70.99	H
259.4050	-83.99	1.61	-87.75	-13.00	-74.75	H
377.2600	-83.89	1.95	-87.99	-13.00	-74.99	H
499.9650	-80.46	2.25	-84.86	-13.00	-71.86	H
670.6850	-77.47	2.62	-82.24	-13.00	-69.24	H
888.4500	-75.93	3.04	-81.12	-13.00	-68.12	H

Above 1GHz

LTE Band 4 / BW: 20MHz / QPSK RB =1, RB Offset = 0

Operation Mode:	Tx / Low CH	**Test Date:**	March 13, 2019
Temperature:	22°C	**Tested by:**	Dally Hong
Humidity:	46% RH	**Polarity:**	Ver.

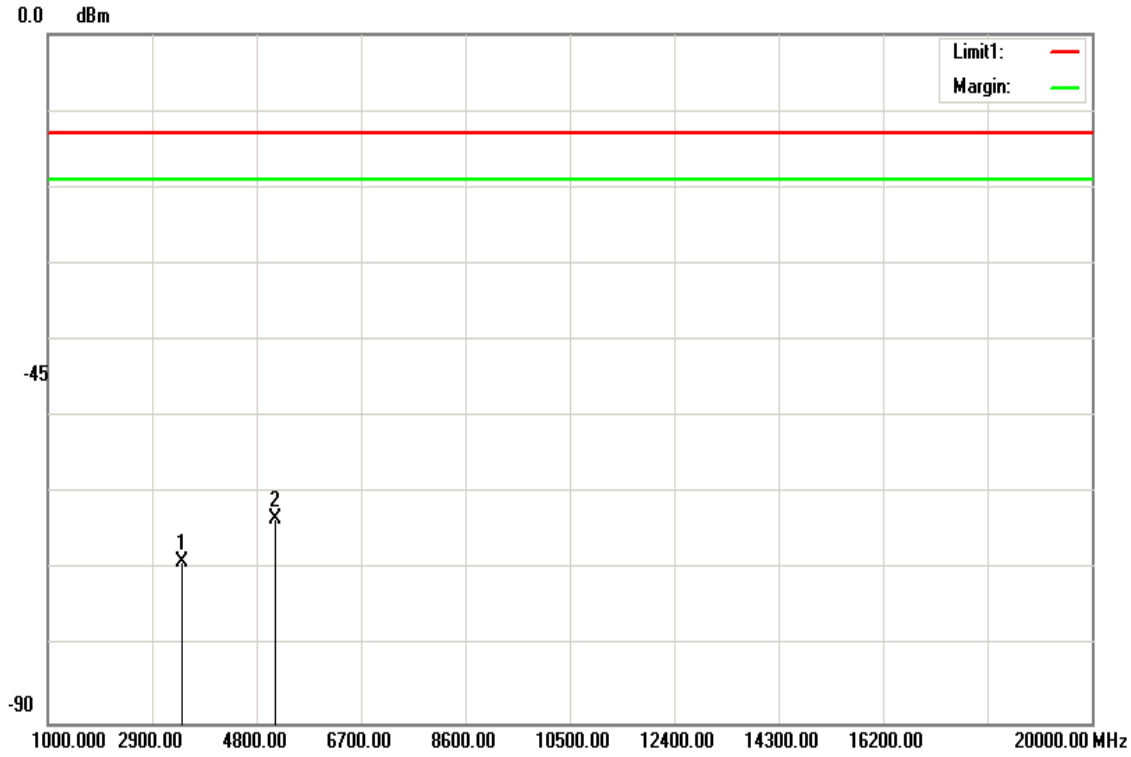


Frequency (MHz)	S.G. (dBm)	Ant.Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
3440.000	-64.35	6.37	-70.72	-13.00	-57.72	V
5133.500	-54.44	7.92	-62.36	-13.00	-49.36	V
N/A						

Remark:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.

Operation Mode:	Tx / Low CH	**Test Date:**	March 13, 2019
Temperature:	22°C	**Tested by:**	Dally Hong
Humidity:	46% RH	**Polarity:**	Hor.

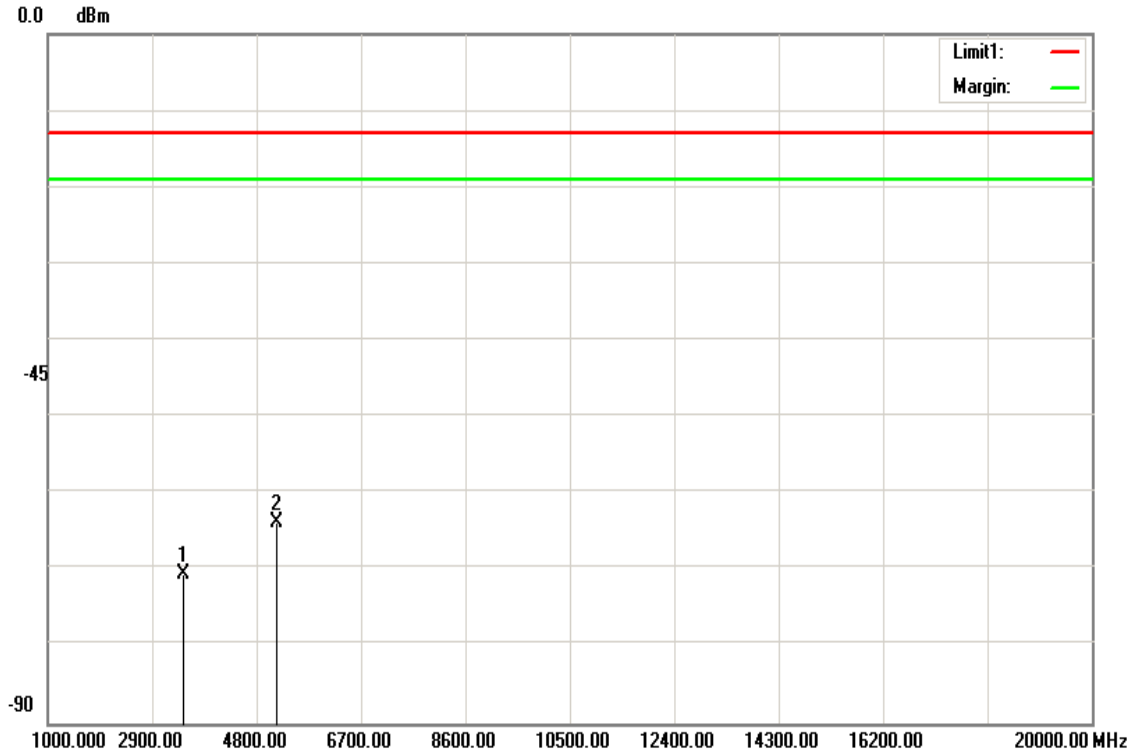


Frequency (MHz)	S.G. (dBm)	Ant.Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
3440.000	-62.59	6.37	-68.96	-13.00	-55.96	H
5133.500	-55.31	7.92	-63.23	-13.00	-50.23	H
N/A						

Remark:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.

Operation Mode:	Tx / Mid CH	**Test Date:**	March 13, 2019
Temperature:	22°C	**Tested by:**	Dally Hong
Humidity:	46% RH	**Polarity:**	Ver.

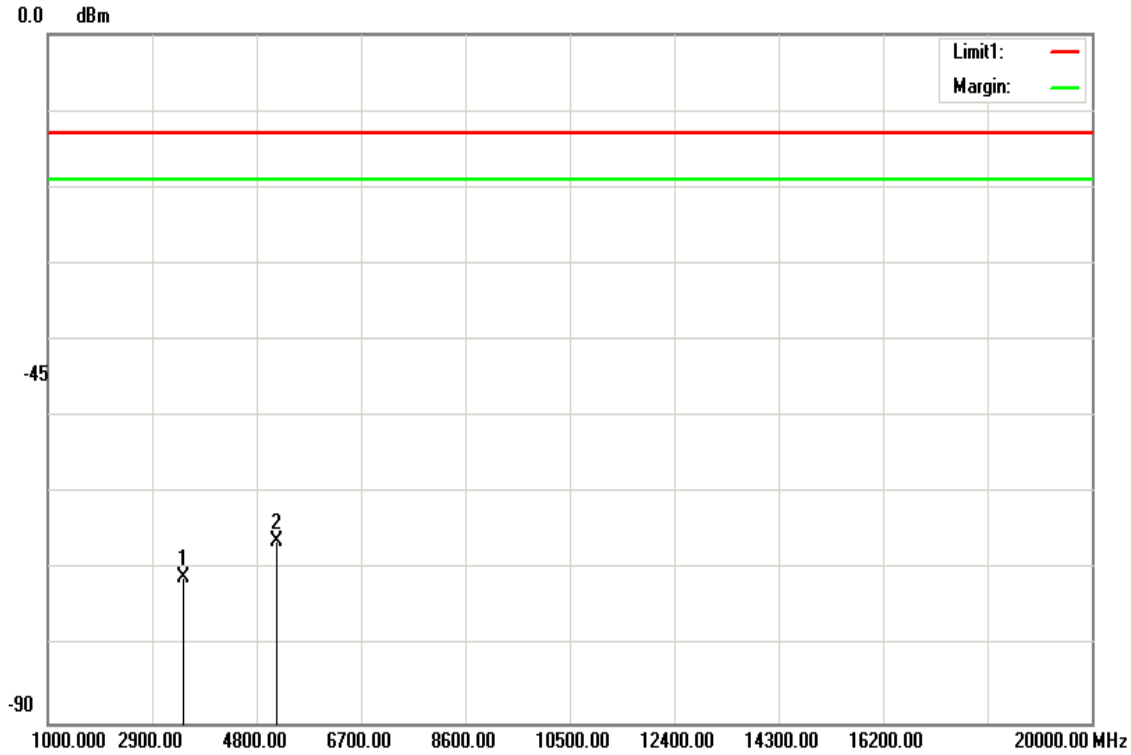


Frequency (MHz)	S.G. (dBm)	Ant.Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
3465.000	-64.18	6.39	-70.57	-13.00	-57.57	V
5172.000	-55.86	7.96	-63.82	-13.00	-50.82	V
N/A						

Remark:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.

Operation Mode:	Tx / Mid CH	**Test Date:**	March 13, 2019
Temperature:	22°C	**Tested by:**	Dally Hong
Humidity:	46% RH	**Polarity:**	Hor.

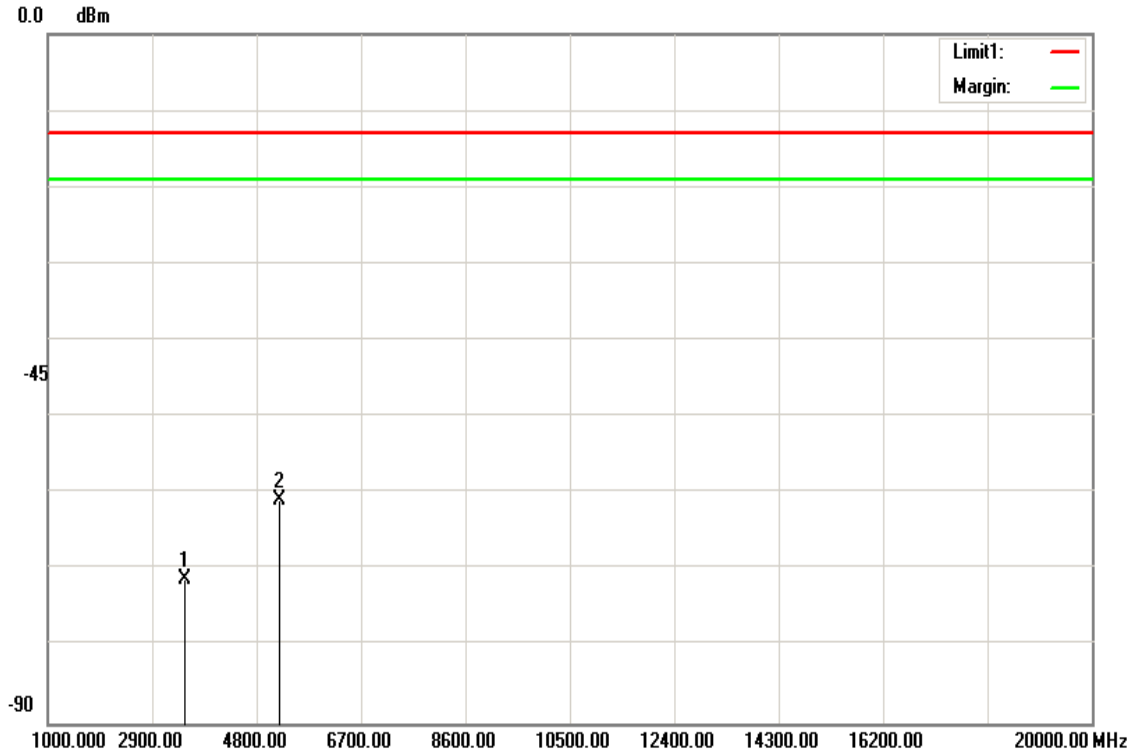


Frequency (MHz)	S.G. (dBm)	Ant.Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
3465.000	-64.63	6.39	-71.02	-13.00	-58.02	H
5172.000	-58.34	7.96	-66.30	-13.00	-53.30	H
N/A						

Remark:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.

Operation Mode:	Tx / High CH	**Test Date:**	March 13, 2019
Temperature:	22°C	**Tested by:**	Dally Hong
Humidity:	46% RH	**Polarity:**	Ver.

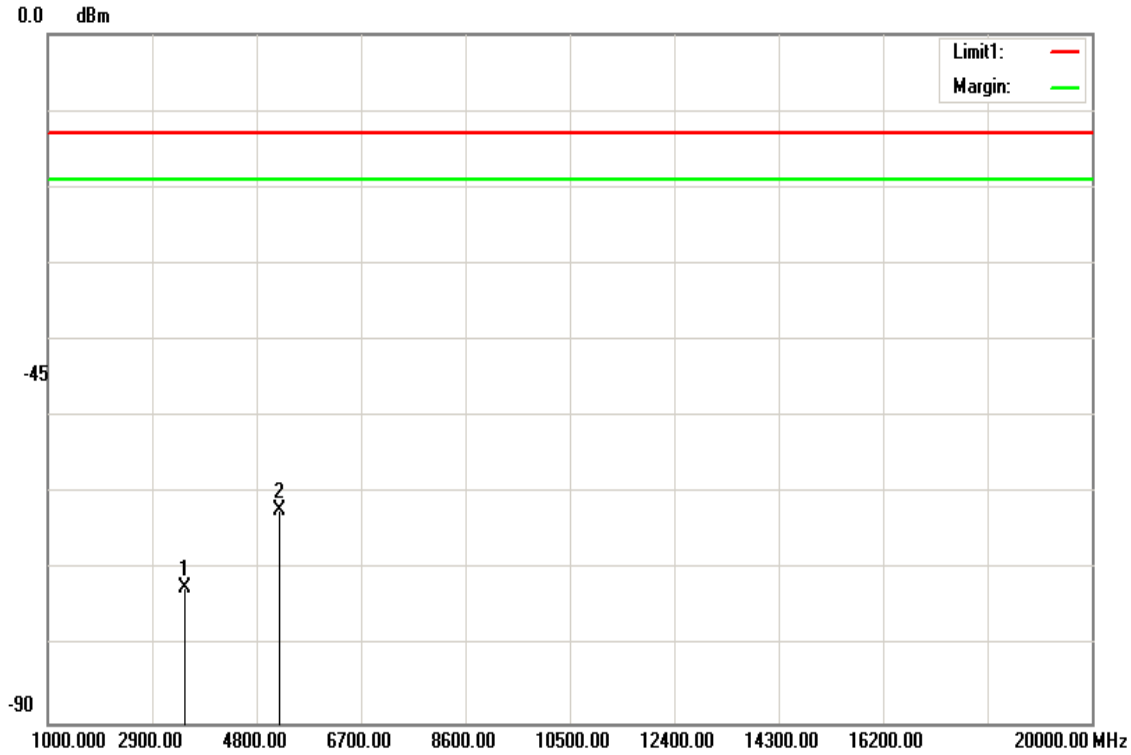


Frequency (MHz)	S.G. (dBm)	Ant.Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
3490.000	-64.9	6.42	-71.32	-13.00	-58.32	V
5207.000	-52.98	7.99	-60.97	-13.00	-47.97	V
N/A						

Remark:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.

Operation Mode:	Tx / High CH	**Test Date:**	March 13, 2019
Temperature:	22°C	**Tested by:**	Dally Hong
Humidity:	46% RH	**Polarity:**	Hor.



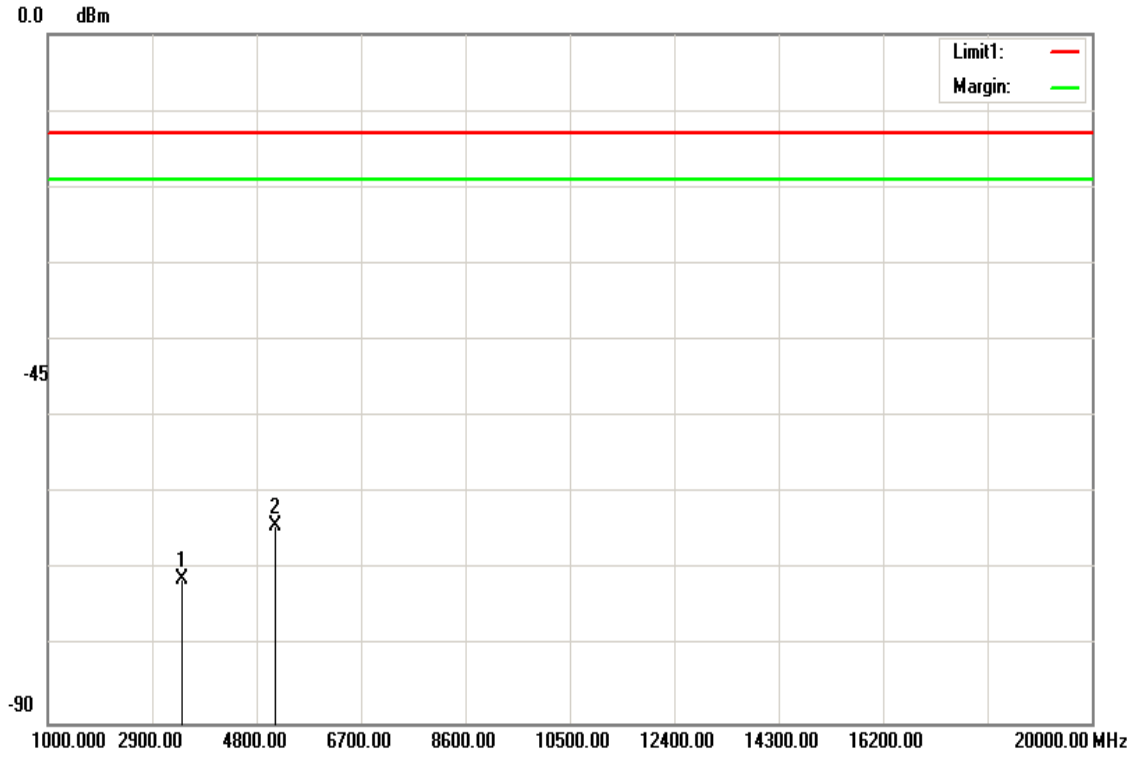
Frequency (MHz)	S.G. (dBm)	Ant.Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
3490.000	-65.9	6.42	-72.32	-13.00	-59.32	H
5207.000	-54.16	7.99	-62.15	-13.00	-49.15	H
N/A						

Remark:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.

LTE Band 4 / BW: 20MHz / 16QAM / RB =1, RB Offset = 0

Operation Mode:	Tx / Low CH	**Test Date:**	March 13, 2019
Temperature:	22°C	**Tested by:**	Dally Hong
Humidity:	46% RH	**Polarity:**	Ver.

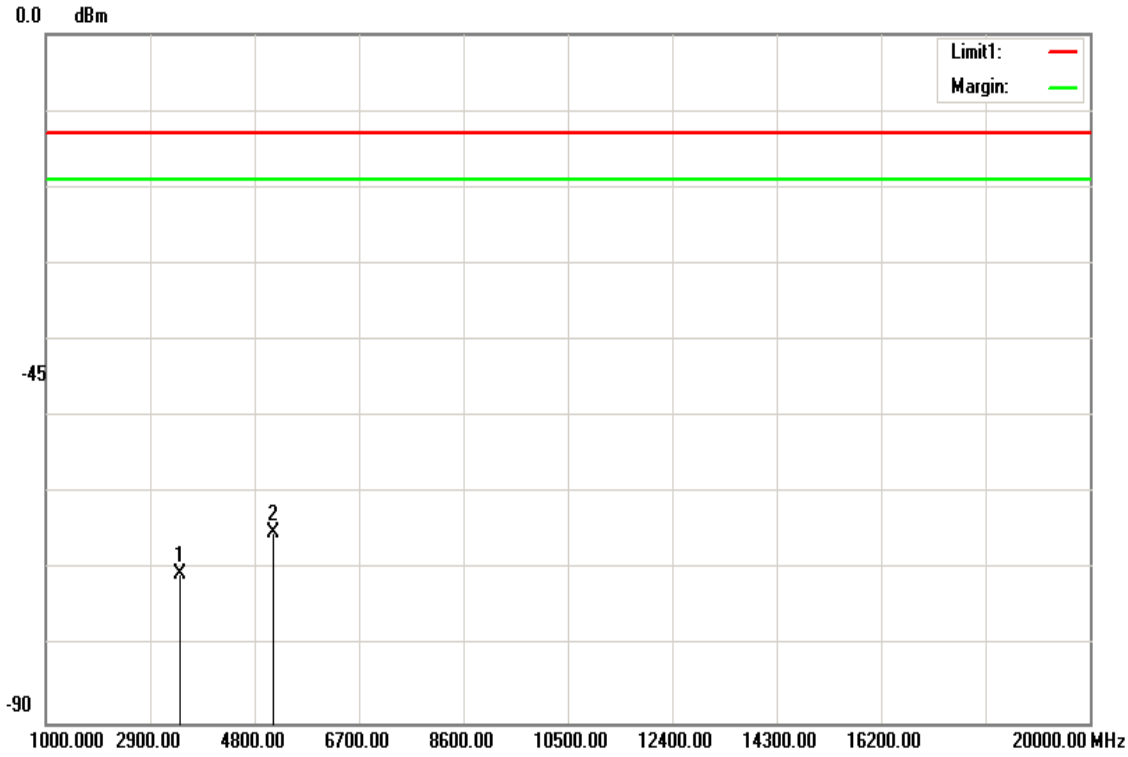


Frequency (MHz)	S.G. (dBm)	Ant.Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
3440.000	-64.85	6.37	-71.22	-13.00	-58.22	V
5133.500	-56.21	7.92	-64.13	-13.00	-51.13	V
N/A						

Remark:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.

Operation Mode:	Tx / Low CH	**Test Date:**	March 13, 2019
Temperature:	22°C	**Tested by:**	Dally Hong
Humidity:	46% RH	**Polarity:**	Hor.

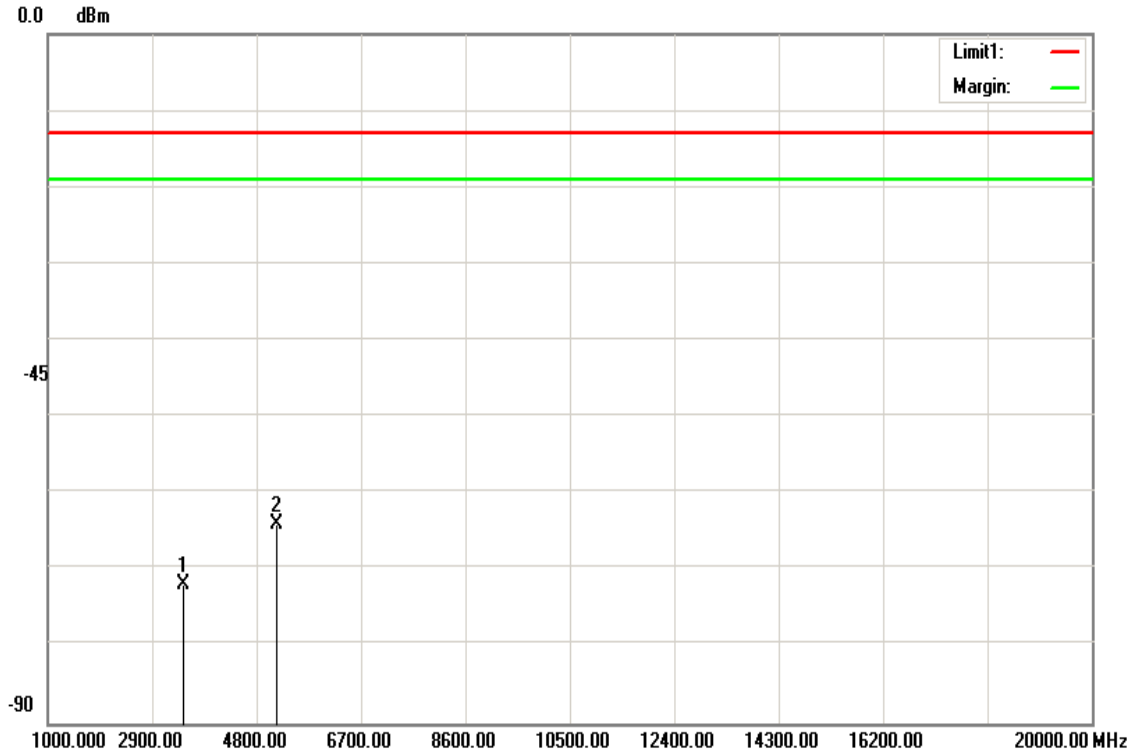


Frequency (MHz)	S.G. (dBm)	Ant.Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
3440.000	-64.1	6.37	-70.47	-13.00	-57.47	H
5133.500	-57.25	7.92	-65.17	-13.00	-52.17	H
N/A						

Remark:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.

Operation Mode:	Tx / Mid CH	**Test Date:**	March 13, 2019
Temperature:	22°C	**Tested by:**	Dally Hong
Humidity:	46% RH	**Polarity:**	Ver.

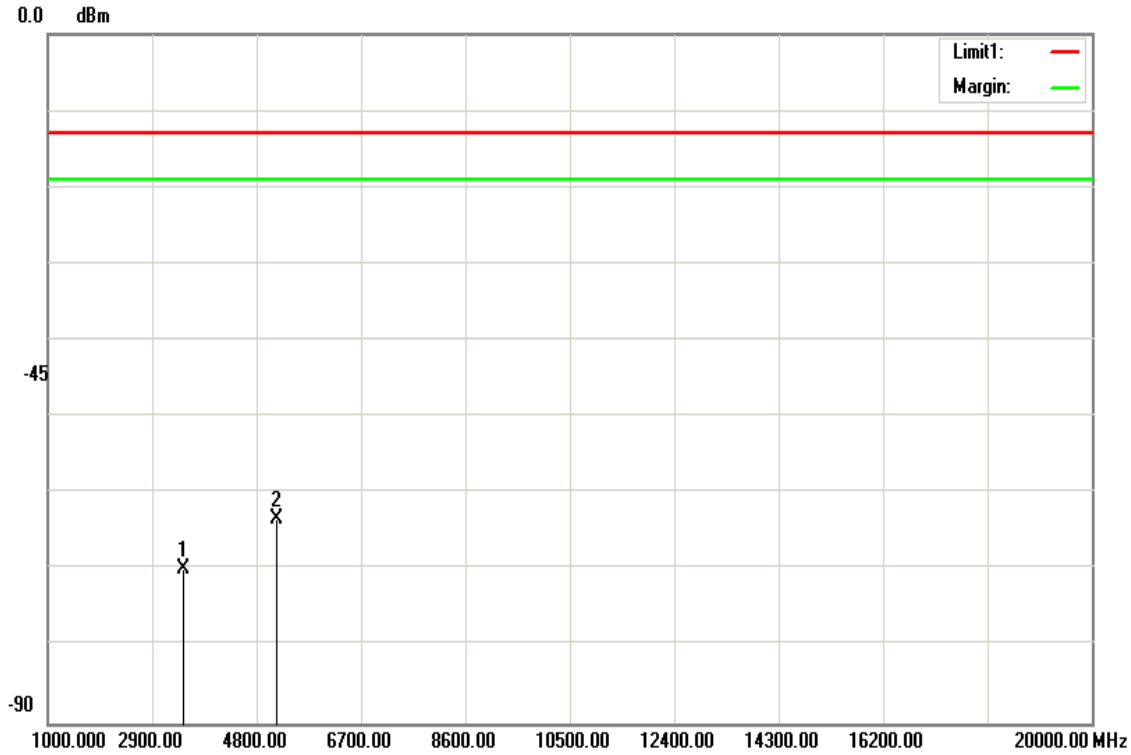


Frequency (MHz)	S.G. (dBm)	Ant.Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
3465.000	-65.58	6.39	-71.97	-13.00	-58.97	V
5172.000	-56.08	7.96	-64.04	-13.00	-51.04	V
N/A						

Remark:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.

Operation Mode:	Tx / Mid CH	**Test Date:**	March 13, 2019
Temperature:	22°C	**Tested by:**	Dally Hong
Humidity:	46% RH	**Polarity:**	Hor.

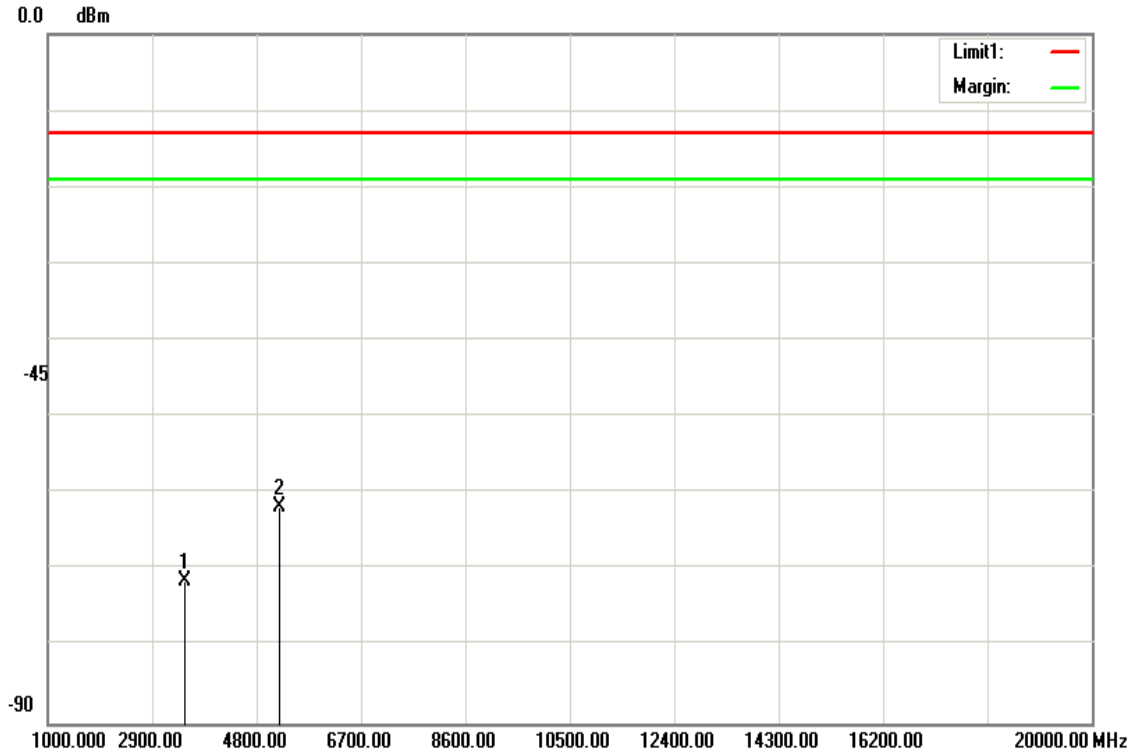


Frequency (MHz)	S.G. (dBm)	Ant.Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
3465.000	-63.42	6.39	-69.81	-13.00	-56.81	H
5172.000	-55.27	7.96	-63.23	-13.00	-50.23	H
N/A						

Remark:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.

Operation Mode:	Tx / High CH	**Test Date:**	March 13, 2019
Temperature:	22°C	**Tested by:**	Dally Hong
Humidity:	46% RH	**Polarity:**	Ver.

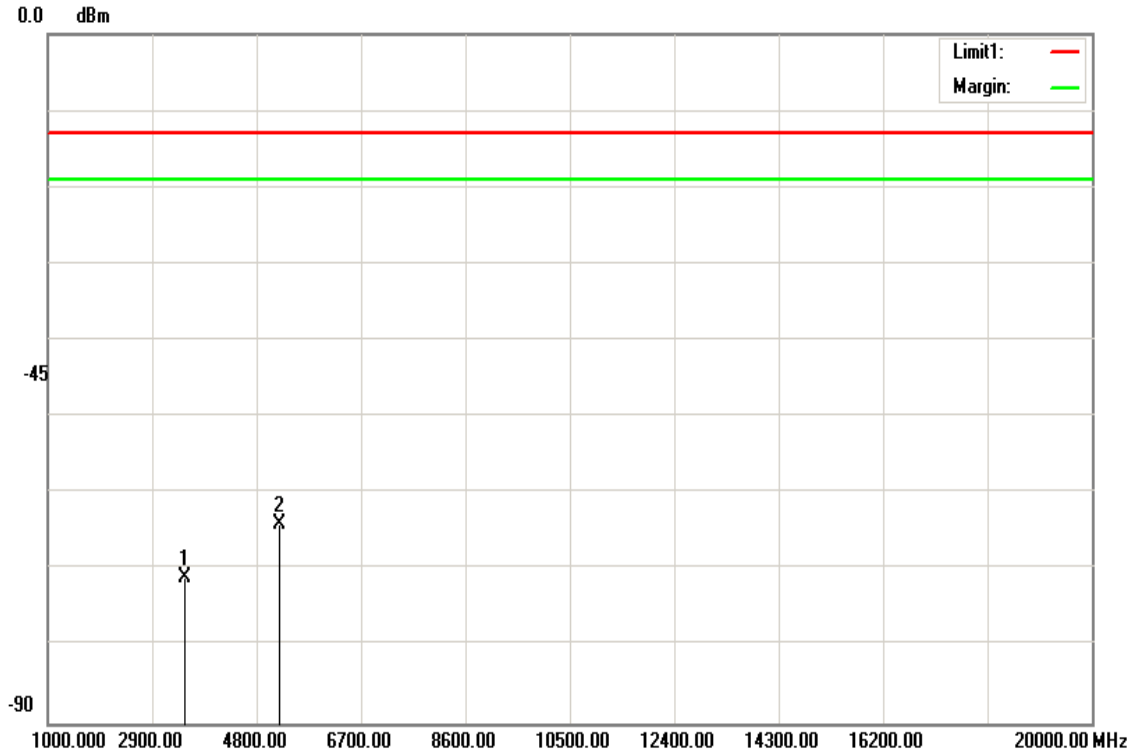


Frequency (MHz)	S.G. (dBm)	Ant.Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
3490.000	-64.92	6.42	-71.34	-13.00	-58.34	V
5207.000	-53.85	7.99	-61.84	-13.00	-48.84	V
N/A						

Remark:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.

Operation Mode:	Tx / High CH	**Test Date:**	March 13, 2019
Temperature:	22°C	**Tested by:**	Dally Hong
Humidity:	46% RH	**Polarity:**	Hor.



Frequency (MHz)	S.G. (dBm)	Ant.Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
3490.000	-64.59	6.42	-71.01	-13.00	-58.01	H
5207.000	-56.12	7.99	-64.11	-13.00	-51.11	H
N/A						

Remark:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.

--End Of Report--